

ANNUAL REPORT
OF THE
DEPARTMENT OF AGRICULTURE
OF THE
PROVINCE OF ALBERTA
FOR THE YEAR
1931

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DEPARTMENT OF AGRICULTURE, EDMONTON.

To His Honour

WILLIAM LEGH WALSH,

Lieutenant Governor of the Province of Alberta.

SIR,—

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1931.

I have the honour to be, Sir,

Your obedient servant,

GEORGE HOADLEY,

Minister of Agriculture.

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DEPARTMENT OF AGRICULTURE

1931

Hon. George Hoadley, Minister of Agriculture

Heads of Branches

H. A. Craig, Deputy Minister and Superintendent of Schools of Agriculture.

J. F. Andrew, Assistant Deputy Minister of Agriculture.

P. W. Johnson, Secretary to the Department.

S. G. Carlyle, Live Stock Commissioner, Brand Recorder and Superintendent of Fairs and Institutes.

C. P. Marker, Dairy Commissioner.

P. R. Talbot, V.S., Provincial Veterinarian.

E. L. Gray, Field Crops Commissioner.

G. M. Cormie, Poultry Commissioner.

D. Douglas, Director of Demonstration Farms (Retired during 1931).

Benj. Lawton, Game and Fire Commissioner (Deceased, November 1931).

Miss Marion E. Storey, Acting Director of Alberta Women's Bureau.

Report of the Deputy Minister

HONOURABLE GEORGE HOADLEY,
Minister of Agriculture.

SIR,—

I have the honour to submit herewith the report of the Department of Agriculture for the year 1931. This includes a resume of the work carried on by each of the Branches of the Department.

From the standpoint of crop production the past season has, on the whole, been a fairly satisfactory one. While failure attended the crops in an area in the south-eastern portion of the Province, the harvest of grain has been good and exceptionally high in quality. It may be said that in this respect the Province has experienced one of its most successful seasons, although the price of farm commodities are at a very low level. The total yield of wheat was 136,000,000 bushels as compared with a total of 132,900,000 in 1930. There has also been produced an abundance of coarse grain and forage crops. The high quality of seed grain grown in the northern portion of the Province has given rise to a demand from outside the Province for this seed.

Interest in the livestock industry continues to increase. While it is true that prices have been low, the farmers have realized that livestock offers the best outlet for grains of low quality and for forage crops. The loss of the United States market for our cattle has had the effect of increasing the number finished within the Province and exported to Great Britain. There has also been a marked increase in the number of hogs marketed during the past year.

The dairy industry has established a new record in production. Creameries increased their output of butter by 5,000,000 pounds, or 28%, and 7,000 names of cream producers were added to their list of patrons. It is gratifying to report an improvement in the quality of cream received at creameries. Unfortunately, the increase in production of butter throughout Canada made it necessary to enter the export market early in the year, and since that time prices have been particularly low.

Poultry production has shown a similar increase. Approximately 2,500,000 dozens of eggs were inspected during 1931 by the Federal Inspection Service in the Province. This is an increase of 675,000 dozens over the previous high record of 1924. In spite of the fact that prices have not been all that could be desired, the tendency seems to be to increase rather than decrease poultry holdings.

The beekeepers of the Province report a very successful year from the standpoint of honey production, and while the price of honey has declined in line with those of other commodities, the industry is on a sound foundation. The measures taken by the

Provincial Apiarist have been to a large degree successful in controlling and eradicating foul brood, which was causing considerable loss.

It is with very sincere regret that I record the removal by death of Mr. Benjamin Lawton, who occupied the position of Game Commissioner since the organization of the Province. Mr. Lawton had served the Province with a high degree of devotion and efficiency, and his loss is seriously felt. Mr. Donald Douglas, who for a number of years rendered valuable service in the capacity of Director of Provincial Farms, resigned from this position in March of this year. Mr. H. S. Pearson, who was connected with the dairy branch of the Department since the formation of the Province, reached the age of superannuation during the year and retired at the end of June. Mr. Pearson was a very capable and conscientious public servant. Mr. A. W. Foley, who entered the service as Poultry Commissioner in 1906, also retired on account of reaching superannuation age. During recent years Mr. Foley was in charge of the moving picture bureau. He built up a very fine collection of moving picture reels, which are being used in connection with publicity and at agricultural meetings. Mr. C. A. Lyndon has been appointed to the staff of the dairy branch, his special work at present being the making of a survey of dairy production on farms in Alberta.

I am pleased to report that the staff of the Department, during the year, have rendered very efficient service, and the relationship with other agricultural organizations, such as the University of Alberta and the Federal Department of Agriculture, have been particularly happy.

H. A. CRAIG,
Deputy Minister.

Report of the Dairy Commissioner

(C. P. MARKER)

The dairy industry of the Province set up a new high record in 1931. The principal items that make up this new record are reported in the following pages, but may here be summarized as follows:

(1) There was an increase of 8% in the number of dairy cows, and a larger proportion than usual were milked during the year; (2) there was an increase of 15% in the total milk production, and an especially large percentage increase during the winter months; (3) the creameries increased their year's butter output by about 5,000,000 pounds, or 28%, and added the names of approximately 7,000 cream producers to their list of patrons; (4) It is gratifying to report that there was a very fair percentage increase in the higher grades of cream received at the creameries, and that a corresponding condition was reported by the official butter graders, with respect to the higher grades of the creamery butter output.

The other side of the picture presents a more serious aspect, in that there was a sharp decline in the prices of practically all dairy products. A new low price level was reached during the year, for butter especially.

The number of dairy cows in the Province at the time of the livestock census of June last was found to be greater by some 30,000 head, according to the preliminary report of the census. This is the largest increase that has been reported in any of the past 10 years, and corresponds quite closely with the increase in the number of "yearlings kept for milk," as reported in the census of 1929. It is estimated that 75% of the cows listed as "dairy cows" were actually milked during the year, as compared with 70% in 1930.

The year's milk production was 15% greater than that of 1930, due mainly to the larger number of cows milked. The mild winter and ample supply of feed in most of the dairy sections were also contributory factors.

The new level of prices for dairy products established in 1930 was well sustained during the first four months of the year. After that, however, the general market declined sharply. It had become quite obvious that Canada's increasing production of creamery butter, plus the stocks of both domestic and imported butter in store in Canada, both east and west, would, at an early date, necessitate the export of a considerable quantity of the season's butter. This export would be to overseas markets already crowded with heavy supplies regularly arriving from many exporting countries.

This combination of factors forced butter prices to the lowest level reached in 25 or 30 years. Other dairy products, such as market milk, table cream and cheese, also suffered a marked price

decline, but not to the same extent as did butter, which had once more become subject to world market conditions and price levels.

The season's first shipment of 1,100 packages of Canadian butter left Montreal for Great Britain during the week ending May 9th, and was followed by many more shipments throughout the summer.

LICENSES AND PERMITS.

There were issued during the year 10 milk and cream testers' licenses in Form "A"; 187 cream graders' and testers' licenses in Form "B"; and 100 dairy factory licenses in Form "C", under the provisions of The Dairymen's Act and Regulations. The license fees amounted to \$894.00.

Twelve permits were granted for the transfer of cream under specified conditions from one creamery to another for manufacture.

COW-TESTING AND MILK RECORDING.

The Dominion Department of Agriculture continued the organized cow-testing and milk recording work started a good many years ago, and it is pleasing to note that this important work is gaining momentum. Mr. A. G. Moore, dairy promoter, in charge of the Dominion cow-testing work, has been good enough to supply, provisionally, the data of the past year's work, and they are given in the following comparative table:

	1929	1930	1931
Associations	7	18	27
Members (herds)	87	308	409
Cows	1,289	3,222	4,220

CREAMERIES AND CHEESE FACTORIES.

There were 92 creameries in operation during the year. Their preliminary reports to the Department indicate that they manufactured 22,957,922 pounds of butter, an increase of 29½% over their previous year's production.

The nine cheese factories reported an output of 1,040,588 pounds of cheese, a quantity very similar to that of 1930. The ice cream manufacturers reported a considerable decline in their year's output, due to prevailing economic conditions.

The following table summarizes, in so far as the data is available at this time, the production and values of Alberta's dairy products for the years 1931 and 1930; the latter, for the purpose of comparison. Some of the reasons for the increased production, and the very serious decline in prices, are referred to elsewhere in this report.

QUANTITIES AND VALUES OF DAIRY PRODUCTS, 1931 AND 1930

Product.	1931 (Preliminary)		
	Pounds	Price, cents	Total Value.
Creamery Butter (92 Creameries)	22,957,922	20.52	\$ 4,711,231
Factory Cheese (9 Factories)	1,040,588	11.38	118,390
Other Dairy Products* .....	.....	.....	10,920,379
Total Value .....	.....	.....	\$15,750,000
1930			
Creamery Butter (92 Creameries)	17,716,744	28.04	\$ 4,968,227
Factory Cheese (8 Factories)	1,035,352	16.94	175,392
Other Dairy Products* .....	.....	.....	13,531,881
Total Value .....	.....	.....	\$18,675,500

*Including milk and cream for direct consumption; ice cream; home-made butter and cheese; skimmed milk and buttermilk.

The figures in the table below show that the creameries reported an increase of 26% in their cream receipts for 1931, but it is particularly significant to note that the receipts for the first four months of the year were 81% greater than were the receipts for the corresponding period of 1930. For the months May to October, inclusive, the increase was 17%. The figures will show, further, that the six winter months—the first four and the last two months of each year—accounted for 22.7% of the total cream receipts at the creameries in 1928; 24.7% in 1929; 26.9% in 1930; and 32.2% in 1931—a relative increase of 9.5% in three years, and, of course, a corresponding reduction in the figures for the receipts during the summer months.

MONTHLY BUTTERFAT RECEIPTS, ALBERTA CREAMERIES

	1928.		1929.		1930.		1931.	
	Weeks.	Pounds.	Weeks.	Pounds.	Weeks.	Pounds.	Weeks.	Pounds.
January	(4)	355,127	(5)	553,314	(5)	571,363	(5)	1,012,049
February	(4)	350,300	(4)	463,559	(4)	475,904	(4)	874,529
March	(5)	490,565	(4)	522,306	(4)	568,303	(4)	974,594
April	(4)	509,793	(4)	669,101	(4)	690,720	(5)	1,642,057
May	(5)	1,286,869	(5)	1,327,653	(5)	1,532,538	(4)	1,843,584
June	(4)	1,936,208	(4)	2,049,945	(4)	2,078,803	(4)	2,427,971
July	(4)	2,054,386	(5)	2,710,896	(5)	2,845,211	(5)	3,230,093
August	(5)	2,217,355	(4)	1,777,929	(4)	2,002,411	(4)	2,246,849
September	(4)	1,156,654	(4)	1,347,292	(4)	1,539,060	(4)	1,754,133
October	(5)	935,758	(5)	1,188,476	(5)	1,336,270	(5)	1,433,281
November	(4)	499,026	(4)	579,192	(4)	811,371	(4)	870,287
December	(4)	449,939	(4)	454,411	(4)	735,312	(4)	840,945
Total		12,241,980		13,644,074		15,187,266		19,150,372

The following table gives a comparative view of the quantity of cream supplied by producers to the creameries during each of the past three years, also the average tests, and the pounds and percentages of butterfat contained in each grade of cream. It is gratifying to note a substantial increase in the percentage of the three higher grades, when it is considered that some 7,000 producers joined the rank of cream shippers during the year. As a general thing, beginners in the cream shipping business are not equipped to market a high grade product, especially during the warm weather period, by reason of having a comparatively small cream production, and being almost compelled to follow the practice of infrequent shipment. In many cases there is a lack of adequate facilities for keeping the cream cold and reasonably sweet up till time of shipment or delivery to the creameries.

There is no doubt, though, that the relatively wide "spreads" in the prices of the various grades of cream at the present low general price level will stimulate the producers' interest in providing simple and inexpensive facilities, and in the use of such production methods as will enable them to secure the most remunerative market for their product. While noting that there has been a marked increase in the higher grades, we cannot overlook the fact that there is still too much low grade, low-priced cream produced and brought to market in the course of a year. The producer is the only party who can correct this economic defect.

DEPARTMENT OF AGRICULTURE

AVERAGE TESTS AND GRADES OF CREAM

	1931. Pounds.	%	1930. Pounds.	%	1929. Pounds.	%
Cream Received	56,690,198		45,469,582		41,277,792	
Average Test		83.8		83.4		83.0
Butterfat:						
Table Grade	495,750	2.6	483,550	3.2	427,164	3.1
I.C. Sp. Grade	1,032,752	5.4	300,700	2.0	27,991	.2
Special Grade	8,784,246	45.8	6,371,144	41.9	5,946,121	43.6
First Grade	7,502,448	39.2	6,977,793	45.9	6,474,988	47.5
Second Grade	1,280,569	6.7	999,111	6.6	743,616	5.4
Off Grade	54,607	.3	54,968	.4	24,194	.2
Total.....	19,150,372	100.0	15,187,266	100.0	13,644,074	100.0

MONTHLY GRADING OF CREAM

The following table is inserted here for the purpose of showing in percentages, month by month, the classification of the cream received by the creameries during the year, and representing something like one and one-quarter million individual purchases.

Months.	Weeks.	Table Grade %	I.C. Special Grade %	Special Grade %	First Grade %	Second Grade %	Off Grade %	Total
January	5	3.5	1.3	64.7	26.1	4.0	.4	100.0
February	4	3.5	1.5	65.7	25.0	3.9	.4	100.0
March	4	3.4	1.5	67.5	23.4	4.0	.2	100.0
April	5	3.0	4.2	56.2	31.5	4.8	.3	100.0
May	4	2.5	7.6	48.1	35.6	6.0	.2	100.0
June	4	2.0	6.2	38.4	45.4	7.8	.2	100.0
July	5	1.9	6.0	33.8	49.3	8.8	.2	100.0
August	4	1.9	5.8	32.0	51.5	8.6	.2	100.0
September	4	2.1	6.9	37.5	45.5	7.8	.2	100.0
October	5	2.8	8.1	43.0	38.9	6.6	.6	100.0
November	4	4.3	6.2	59.4	24.8	4.7	.6	100.0
December	4	4.5	2.0	65.4	23.4	4.4	.3	100.0
Aver. for year		2.6	5.4	45.8	39.2	6.7	.3	100.0

The table which follows shows the comparative monthly average prices paid by the creameries for butterfat in special grade cream for each of the past four years. These prices have been compiled from the weekly returns of cream receipts. The figures that are enclosed in brackets indicate the monthly percentage of each year's cream (butterfat) receipts.

The lines at the foot of the table show the average price for each year, computed from the monthly figures. The percentage of the butterfat receipts for the six summer months and for the six winter months, respectively, are also shown. It will be noted that the relative winter cream supply has increased from year to year during the period covered by the table.

MONTHLY AVERAGE PRICES OF BUTTERFAT IN "SPECIAL GRADE" CREAM

	1928		1929		1930		1931	
	cents	%	cents	%	cents	%	cents	%
January	40.0	(3.2)	39.2	(3.5)	38.0	(3.3)	26.6	(4.6)
February	40.6	(3.1)	39.0	(3.6)	38.0	(3.4)	27.4	(5.0)
March	42.0	(3.5)	39.0	(4.1)	36.5	(4.1)	27.4	(5.5)
April	41.0	(4.5)	39.0	(5.3)	32.0	(5.0)	25.7	(7.4)
May	36.3	(9.1)	35.0	(8.5)	28.0	(8.8)	17.7	(10.4)
June	32.0	(17.2)	33.5	(16.3)	25.2	(14.9)	16.4	(13.7)
July	34.5	(18.3)	35.0	(17.6)	25.0	(16.3)	16.4	(14.6)
August	38.2	(15.8)	35.1	(14.6)	25.0	(14.4)	16.4	(12.7)
September	39.6	(10.3)	36.0	(10.7)	25.5	(11.0)	16.4	(9.9)
October	41.0	(6.6)	38.0	(7.6)	27.0	(7.7)	16.4	(6.5)
November	41.0	(4.4)	38.0	(4.6)	27.0	(5.8)	17.4	(4.9)
December	40.2	(4.0)	38.0	(3.6)	26.5	(5.3)	19.4	(4.8)
The Year	37.4		36.0		27.4		19.0	
6 winter months	42.6	(22.7)	38.8	(24.7)	32.0	(26.9)	24.1	(32.2)
6 summer months	35.9	(77.3)	35.1	(75.3)	25.7	(73.1)	16.6	(67.8)

The Department's analytical service was continued during the year along the lines described in former annual reports, and samples of butter from 85 creameries were analysed more or less regularly for moulds and yeasts. A considerable number of samples were also tested for moisture and salt contents.

Samples of 3,069 churnings of commercial butter were tested, and the findings promptly reported to the operators of the creameries concerned. The reports of these tests provide a valuable guide in the maintenance of thorough-going sanitation in creamery equipment, supplies and working methods.

Samples of creamery well-waters and of parchment paper linings for butter packages were also examined and reported upon, and several hundred tests were made of exhibits of creamery butter for the Calgary and Edmonton Exhibitions, and for the contests at the annual dairy convention.

J. B. Linneboe, M.Sc., who has had charge of the analytical work, was granted one year's leave of absence as from October 1st, in order to take up special studies at the University of Wisconsin. In the meantime, the work is being continued upon a reduced scale by a graduate of the University of Alberta.

GENERAL STATISTICAL DATA

The following tables show, at a glance, some of the outstanding features of Alberta's dairy development during stated periods of years. Earlier data of a similar character have been published in previous annual reports of the Department.

MILCH COWS

Year.	Cows.	Year.	Cows.
1901	46,101	1925	460,722
1906	101,245	1926	436,500
1911	147,687	1927	380,000
1916	277,324	1928	344,495
1921	423,838	1929	345,566
1922	392,037	1930	348,297
1923	410,242	1931	378,000
1924	433,528		

TOTAL ANNUAL VALUE OF DAIRY PRODUCTS

1900	\$ 546,476	1923	\$22,975,000
1910	7,855,761	1924	23,208,562
1915	15,895,586	1925	23,002,000
1916	18,466,311	1926	21,820,000
1917	24,794,597	1927	20,750,000
1918	27,500,000	1928	20,350,000
1919	31,625,000	1929	20,750,000
1920	34,000,000	1930	18,675,500
1921	25,500,000	1931	15,750,000
1922	22,950,000		

CREAMERY BUTTER PRODUCTION

	Creameries.	Lbs. of Butter	Selling Value (cents per lb.)
1920	53	11,821,291	\$6,555,509 (55.45)
1921	41	13,048,493	4,543,007 (34.82)
1922	54	15,417,070	5,126,843 (33.25)
1923	75	17,868,853	5,891,186 (32.97)
1924	89	22,339,857	7,059,630 (31.60)
1925	99	19,630,101	6,959,059 (35.45)
1926	99	19,912,466	6,568,280 (32.96)
1927	100	16,179,712	5,765,347 (35.63)
1928	100	14,375,636	5,374,456 (37.38)
1929	95	16,004,463	5,825,247 (36.39)
1930	92	17,716,744	4,968,227 (28.04)
1931	92	22,957,922	4,711,231 (20.52)

DEPARTMENT OF AGRICULTURE

FACTORY CHEESE PRODUCTION

Year.	Factories.	Lbs. of Cheese	Selling Value (cents per lb.)	
1920	7	398,750	\$ 110,355	(27.70)
1921	10	930,660	200,478	(21.54)
1922	14	931,992	183,860	(19.73)
1923	13	1,865,608	368,771	(19.77)
1924	12	1,714,790	278,478	(16.24)
1925	14	1,473,835	306,604	(20.80)
1926	15	1,449,983	275,107	(19.00)
1927	12	848,511	170,690	(20.12)
1928	9	722,048	158,404	(21.94)
1929	10	1,001,475	198,047	(19.78)
1930	8	1,035,352	175,392	(16.94)
1931	8	1,040,588	118,390	(11.38)

Report of the Live Stock Commissioner

(S. G. CARLYLE)

The year 1931 will go down in history in Alberta as recording the lowest prices of livestock and livestock products for the past thirty years. They are, however, in line with prices of other farm commodities, and this general low level has had its influence, not only on the farmers, but on other businesses as well.

The low price of grain, however, has had the effect of increasing livestock production, farmers realizing that it is more profitable to feed the lower grades of grain. Along with increased production, it is gratifying to notice a strong tendency to improve the quality of livestock.

While the prices for horses have been low, there has been a good demand, and more horse sales were held in 1931 than for a number of years past. The sales held at various points in the Province were not, however, quite as successful as in other years, but was due principally to the quality of the horses, and also to the fact that too many were offered for sale that were not broken. The market for most of our horses is in eastern Canada, and the buyers will not purchase unless they are assured that the horses have been handled and are quiet. This should be impressed upon the horse ranchers of the Province, for if these horses were handled and were in good condition, better prices would be paid by the eastern buyers.

The farmers of late years have been relying on motor power, and therefore have not been raising many colts. In the past year a great many of them were forced back into using horses, and this created a considerable demand.

There were 24,055 horses shipped out of the Province in 1931. Of this number, 888 were shipped west, 16,597 were shipped east, and 6,570 to the United States.

Quite a number of horses in the southern part of the Province were shipped or driven to the central or northern parts of the Province and sold by auction during the fall months, and quite a number were also driven by settlers to the Peace River country.

Thirteen stallion clubs were organized under the Dominion policy, and the horses hired for these clubs were of good quality. However, at the present time there is a dearth of good sires in the Province, and we anticipate that there will be a much stronger demand than in years past for good breeding horses.

The same keen interest is still taken in the breeding of light horses, especially in the Calgary, Millarville, Cochrane, Lacombe, Edmonton and Vermilion districts. Stallions are put out under the Federal policy, and some good colts are being raised. Perhaps the greatest drawback is the limited number of mares suitable for breeding this class of stock.

Keener interest has been noticed in the cattle business during the past year. There has been a splendid demand for stocker cattle, and some 6,000 head have been shipped from the Calgary and Edmonton yards back to the farms. Quite a percentage of these were heifers, and will be retained for breeding purposes. A total of 105,000 head were exported from the Province during the year. Owing to the market in the United States being closed on account of the high tariff, there was a heavier shipment to Great Britain. Some 27,825 head were shipped from Canada in comparison with 5,400 the year previous. The number shipped to the United States was 7,861 in comparison with 19,483 the year previous. Approximately 7,500 were shipped from Alberta to Great Britain in 1931. There has been a great decrease in export of cattle to the United States since 1929, when 160,103 were shipped to the United States, no cattle being shipped to Great Britain that year.

A great deal more interest is being taken in the feeding and finishing of cattle, and this business is spreading over the Province. This looks like a move in the right direction, and should receive every encouragement. Even when the prices of grains do come back, there will be a certain percentage of low grade grain and screenings, which should be marketed through livestock.

A total of 42,261 head of cattle was marketed at the Calgary Stock Yards the past year, and in Edmonton 36,452 head were marketed. The prices have held perhaps steadier than in the case of any other farm commodity. They were low in the early spring of 1931, but those who held their cattle until June and a little later received remunerative prices. Those who shipped their cattle to the Old Country during the spring months received prices well over the local market, and the shippers were quite satisfied with these results. There was such a strong demand for stocker and feeder cattle that the prices of stockers during the fall months was almost equal to that of finished beef. The market for export cattle during the fall months was not very satisfactory, and those who made shipments were disappointed. These cattle were not grain-fed, but were shipped from the grass, and apparently the British market wants grain-fed cattle. The rate of exchange also reacted very unfavorably against these shipments, and until such time as the exchange is more favorable it is doubtful if shippers will take the risk of shipping to this market.

The tendency throughout the country is to improve the quality by purchasing better sires, and also by paying more attention to feeding and putting the cattle on the market in a better condition.

The ranchers in the south who put out calves last year on a share basis with farmers in the Lethbridge district, extended their operations this year to the Lacombe district, where some nine hundred calves were put out under contract. A number of these were put out for finishing for the spring market, and the remainder will be carried through the winter and then be put back on grass in the spring. This scheme has so far been satisfactory, and if it should continue to be profitable to both the rancher and the farmer, it will no doubt reach considerable proportions in the future.

There has been a great increase in dairying, and more creamery butter was produced this year than in any year in the history of the Province. There was a strong demand for dairy cows until the fall months, when the demand seemed to drop off and prices were lower. The prices of dairy products continued low all through the year, and this no doubt accounted for the falling off of both the demand and prices of cattle during the close of the year. There has, however, been a good demand for dairy bulls, and more interest seems to be taken in cow testing associations. Most men purchasing bulls now demand one from a cow with a reasonably good record. The Department, under the Pure Bred Bulls Purchase Act, assisted 70 farmers. The breeds of bulls were as follows: Shorthorns, Ayrshires, Holsteins, Jerseys, Aberdeen Angus and Herefords.

The bull sales held in the Province during the year were only fairly successful. At Calgary the Hereford bulls sold for the highest price, the Aberdeen Angus a moderate price, and for the best Shorthorn bulls the prices were satisfactory, but most of the medium bulls, or the bulls not highly fitted, sold below their value. The same condition prevailed at the Lacombe sale. At the Edmonton bull sale the prices were perhaps more satisfactory and the demand was good, but there was only a reasonable number of bulls offered. This year was the first for some years that the Federal Government made any purchases, and they assisted greatly at these sales. Under their loaning policy they put out in the Province this year 232 bulls, mostly of the Shorthorn breed.

Below is a summary of the bull sales:

1931 EDMONTON BULL SALE		
Breed.	No. Sold	Average Price
Aberdeen Angus	3	\$ 61.66
Shorthorns	64	123.20
Total.....	67	\$184.86

1931 CALGARY BULL SALE		
Breed.	No. Sold	Average Price
Herefords	267	\$213.37
Shorthorns	233	140.45
Aberdeen Angus	70	124.50
Total.....	570	\$172.65

As far as production is concerned it was a satisfactory year for the sheep men. Ewes came through the winter in good condition, and the lamb crop was satisfactory, but like other classes of stock the prices were disappointingly low, both for lambs and breeding sheep. However, with low prices it was an opportune time for farmers to start a small flock, and a great many of them took advantage of these conditions. At the present time there are about half a million sheep in the Province, and about half of that number are owned by farmers in small flocks. The demand for rams was fairly good, but the prices at the ram sales were low. However, farmers are interested in breeding the right type, and in getting their lambs on the market at an early age at the right weight, thus securing the highest price. The interest in sheep-raising is increasing, as the farmers are realizing more and more that a few sheep on the farm cost very little to feed and they assist to a certain extent in keeping down weeds, and compared with other farm animals

they perhaps give a greater profit for money invested and food consumed. The feeding of range lambs through the winter is largely confined yet to the packing plants. There are a few other feeders who have found this a profitable business, but as a rule very few farmers have taken advantage of purchasing lambs in the fall from the sheep ranchers and putting them on feed for the winter.

Below is a summary of the Edmonton, Calgary and Lacombe sheep sales:

1931 EDMONTON SHEEP SALE		
Breed.	No. Sold	Average Price
Pure-bred Oxford Ewes	10	\$ 6.90
Grade Ewes	22	3.39
Totals for Ewes.....	32	.....
Suffolk Rams	11	\$20.45
Hampshire Rams	23	20.92
Oxford Rams	64	13.19
Shropshire Rams	4	13.00
Totals for Rams	102	.....
1931 CALGARY SHEEP SALE		
Breed.	No. Sold	Average Price
Hampshire Ewes	8	\$15.12
Oxford Ewes	11	10.18
Oxford Ewes, 1931	7	9.57
Shropshire Ewes	2	9.00
Suffolk Ewes	11	21.10
Suffolk Ewes, 1931	7	22.14
Grade Ewes	1094	5.88
Rambouillet Ewes	2	10.00
Rambouillet of 1931	2	6.50
Totals for Ewes.....	1144	.....
Rambouillets	8	\$12.50
Rambouillets, 1931	1	5.00
Southdowns	2	27.00
Hampshires	53	20.34
Hampshires of 1931	25	19.58
Oxford Rams	36	13.55
Oxfords, 1931	15	15.47
Shropshire Rams	37	15.42
Shropshires of 1931	3	17.67
Suffolks	73	20.82
Suffolks of 1931	21	18.76
Totals for Rams.....	274	.....
1931 LACOMBE SHEEP SALE		
355 Ewes sold		\$1,669.05
Average		4.70
69 Rams		1,289.25
Average		18.68

Perhaps more interest has been centered in hogs the past year than in any of the other farm animals. In the fall of 1930 there was a very large increase in the number of sows bred. Quite a number of farmers went into it in a large way, and bred from 25 to 50 sows, without having made any special preparations for farrowing, with the result that there was a heavy mortality of young pigs. It was anticipated that with the number of sows bred there would be 100% increase in production, but marketing results show that during the calendar year there was only around 14% increase. However, taken from April to April, which is really the hog year, it is anticipated that there would be an increase of some 25%. In the year 1930, 628,935 hogs were marketed in the Province, and while final returns are not in for 1931, according to figures avail-

able, the marketings were between 750,000 and 775,000 head. As with other classes of stock, there has been considerable improvement in the quality, and better breeding stock was perhaps retained this year than ever before. There was a scarcity of good bacon type boars, and the Dominion Government shipped a couple of carloads from the east to satisfy the demand of the various pig clubs. The hog market took a greater drop than that of any other class of stock. The first part of the year prices were around 8 cents per pound for bacon hogs, whereas in the last month in the year they were only $3\frac{1}{2}$ cents. Even with this low price, it is not anticipated that there will be any decrease in the number of sows bred.

Report of Extension Work

(S. G. CARLYLE)

During 1931 short courses were held at the following places: Okotoks, Provost, Lougheed, Holden, Innisfree, Andrew, Myrnam, Lacombe, Brooks, Rainier, Duchess, Sangudo, Onoway, Evansburg, Gainford, Lacombe, Stanmore, Youngstown and Byemoor, and one-day meetings were held at High River and Conjuring Creek.

These courses were well attended, and a great deal of interest was created.

Subjects discussed were: Care and Feeding of Livestock, Fodder Crops, Control of Weeds, Soil Cultivation, Dairying, and Animal Diseases.

Farmers were especially anxious to secure information as to the best method of seeding grasses and clovers, and to find out the best varieties for their particular district.

Great interest was also taken in animal diseases, especially those affecting hogs.

We have had numerous enquiries to form more calf and swine clubs, but we have hesitated to increase the number unless they are under direct supervision of some Government official, such as a district agriculturist.

Report of Superintendent of Fairs

(S. G. CARLYLE)

There was a better showing of stock at the fairs during 1931 than for the past ten years, and this was due largely to the increased interest taken in livestock, and also that the farmers seemed anxious to secure money in every legitimate way to swell the revenue of the farm, and as the Alberta prize lists are fairly liberal this, no doubt, had the effect of stock being exhibited in larger numbers and of practically every class being filled. Unfortunately, however, the financial side of the fairs was not as successful. This is especially true of the Class B fairs, which were under a considerable expense in providing attractions, accommodation, etc.

It is felt that greater care should be exercised in the management of the fairs and, since the farmers are taking such an interest in bringing out such large numbers of stock and filling all the classes, that the premiums should be cut for another year.

The number of fairs held each year have been gradually diminishing. At the convention 63 dates for fairs were allotted, 14 were cancelled and 49 fairs actually held. This is just 47 less than ten years ago. One new fair was organized at Donnelly in the Peace River country, and the fair at Westlock was reorganized after being dormant for seven years. There was a good deal of interest and enthusiasm at these two fairs, and a splendid showing of stock. Financially they were also satisfactory. These two places are in the heart of good mixed farming districts, and it was felt that there was a need for an agricultural society at these two centers.

It would seem that with the number of smaller fairs now being disorganized, it would be a wise plan to build up a few larger fairs at strategic points in the center of good livestock districts.

It is gratifying to note the improvement in the quality and also in the number of horses that were brought out. Practically at every fair there was a better showing of horses than for some years past. Beef and dairy cattle classes were particularly good, and at a great number of places they had not sufficient accommodation. There was also an improvement in hogs and sheep, but perhaps not to the same extent as in cattle and horses. Boys and girls' classes, especially in calves and hogs, made exceptional fine showings at some of the fairs, and it is felt that more encouragement should be given along this line. The Lethbridge Exhibition is outstanding in the work that is being done for boys and girls, and it might be advisable if some of the other fairs would follow their lead.

More interest is being taken in other competitions fostered by the agricultural society, and this is especially true in junior work. During the year the following shows and competitions were held:

Seed Fairs	17
Horticultural Shows	11
Combined Cleaned Seed and Field Crops Competition.....	14
Poultry Shows	11
Field Crops Competition	11
Junior Seed Grain Competition.....	25
Good Farms Competitions	3
Ploughing Matches	2
Corn Show	1

Considering the times, this is a good showing, and it is to be hoped the interest will be kept up and that more of these competitions will be held each year.

Report of the Supervisor of School Fairs

(G. S. BLACK)

Despite the economic depression, school fairs have continued to grow, and the year 1931 again saw an increase in the number of fairs held and a very decided increase in the number and quality of exhibits shown. The attendance has been good, and in very many cases the fair has now become a permanent factor for the good of the whole community.

School fairs, starting as small exhibits of children's work, have grown to such an extent that two-day fairs are often necessary. From these, educational contests have been developed which are embracing both juniors and adults, in elocution contests and musical festivals of provincial scope.

Special comment should be made on the excellent co-operation existing between all branches of the Department of Education, school fair boards and the Department of Agriculture. The school teachers in many localities have done excellent work, and the furthering of physical training and school fair parades is worthy of special note. The originality of some of the exhibits is indeed striking. The whole plan of school fairs calls for as little expenditure as possible. The result is that, where schools are competing against each other, they retain a splendid spirit of friendly rivalry which is causing very keen effort on the part of students and teachers.

The two-day fairs which are necessary due to the widening scope and the large number of exhibits, involve the loss of only one day of actual school attendance. The contests in elocution and singing are held on the evening of the first day, while in the afternoon the exhibits are judged without the attendance of the school children. The result is that better judging work is accomplished, and the judges have more time for discussion with the exhibitors the following day. This extension work is being very enthusiastically received in practically all of the school fair districts.

Thanks are extended to the many clubs, societies, and individuals who have so gladly contributed to the success of these fairs by their whole-hearted support at all times. This is especially acceptable in many fairs where the arranging of an active sports programme is sponsored by one of the service clubs. Games under proper supervision on the school fair day round out a very complete programme. The scholarship short courses were well attended, and are indeed worthy rewards for all school fair contestants. Much favorable comment has been received on the benefit derived from these courses.

The following is a brief survey of school fair activities:

	Fairs Held	No. of Pupils	No. of Entries
Peace River	12	2,860	13,541
Edmonton	16	3,579	19,158
Vermilion	16	5,656	26,217
Olds	42	19,433	49,365
Claresholm	23	5,885	24,064
Scott, Sedgewick	10	2,057	12,031
Raymond	20	4,800	16,466
1931	139	35,270	160,842
1930	135	.....	138,985
1929	122	.....	99,700

Report of the Supervisor of Boys' and Girls' Clubs

(G. S. BLACK)

Junior livestock clubs had a very successful year in 1931. The livestock projects carried out were in swine, calf and sheep clubs. During this year we came under the jurisdiction of the new National Council on Boys and Girls' Clubs at Ottawa, with the result that all the provinces have uniform regulations applying to their livestock clubs. This was an important step, and should give greater incentive to livestock club work.

Thirty-two swine clubs were organized and completed their work. The quality of the livestock is steadily improving, and with the loaning of over 100 boars by the Dominion Live Stock Branch to these clubs, the improvement in type and quality is assured. Good supervision was given, and the work has indeed shown splendid results.

A re-adjustment in the method of determining the provincial judging winners was necessary this year in keeping with the regulations in the National Council. Formerly a final judging contest was held at Edmonton, in which some 80 or 90 contestants were present. This year at the Lacombe and Lethbridge Experimental Farms, and the University of Alberta, Edmonton, semi-final judging contests were held for the clubs of this Province. The Department of Agriculture granted free transportation for the winning team in the south and the north to attend a final contest which was also held at the University of Alberta the following day. This work was assisted by a grant of \$270 given by the Dominion Government for the semi-final contests. These contests were won by teams from Pincher Creek, Grande Prairie and Wetaskiwin, and the team which won the provincial honors and who represented the Province at Toronto in swine club work was composed of Gordon Ballhorn and Theo Jevne of Wetaskiwin. These boys made a very creditable showing at the Dominion contests at Toronto, where they stood in third place.

Twelve clubs marketed a carlot of bacon hogs which averaged 37% select hogs. This is a good indication of the quality of club livestock, and all lots were marketed early enough to receive fairly good prices, showing a profit to the producer in a year when late maturing livestock was very unprofitable.

ALBERTA CAR-LOT COMPETITIONS, 1931

Club.	Hogs	Score	Prize
Vegreville	88	86	\$60.00
Vermilion	79	85.5	50.00
Willingdon	83	84	40.00
Lacombe and Wetaskiwin	80	82.5	35.00
Andrew	75	82	30.00
Lone Ridge	59	80	25.00
Red Deer and Innisfail	93	79	20.00
Holden and Tofield	95	76	15.00
Conjuring Creek	61	73	10.00
Grande Prairie	60	66	10.00
Rimbey and Bentley	68	65.5	.....
Myrnam	75	64	.....

New clubs were organized at Tofield, Myrnam, Grande Prairie, Sexsmith, Willowdale, Daysland, Twin Butte, Kootenay, and Donnelly. It has only been possible to organize clubs where there are district agriculturists, and this has necessitated the refusing of very many applications for club work due to the impossibility of giving proper supervision, which is absolutely essential in making work of this nature profitable to all concerned.

New calf clubs were organized at Legal, Falher, Red Deer and Carstairs. The dairy breeds predominated. It is interesting to note that the club organized at Falher under the supervision of Mr. Tremblay exhibited 25 calves in its first year, also that the Olds club in its second year had a total exhibit of 50 calves and yearlings, and these were undoubtedly a big attraction at the Olds Agricultural Fair.

A judging contest was held at Edmonton during the month of October, when two members from each calf club in the Province judged classes at the University of Alberta, Edmonton, to determine which team should represent the Province in the national contests at Toronto. This team consisted of two boys from the Olds Calf Club, C. Dunkley and T. Noad, who in turn represented the Province in Toronto, where they stood in seventh place in the national contests.

Sheep clubs are not growing very rapidly. With the opportunity of securing good breeding stock through the Dominion Government, many localities which would otherwise have junior sheep clubs are not requesting them. A car-load of grade ewes was purchased by the Camrose Sheep Club last fall, and the market returns were very satisfactory this year. The club is taking a very good hold in the district, and coupled with the use of pure-bred rams, provides a very economical way for young men in the district getting into the small flock plan.

Considerable time is expended in securing better breeding livestock for adults in districts where clubs are organized. The demonstrations by the club members caused a great deal more interest in better livestock, resulting in assistance to both buyer and seller. I assisted in short course work and also in judging at several "B" class fairs during the summer. The holding of junior club days at the experimental farms at Lacombe and Lethbridge was exceedingly profitable. The Livestock Branch of the Dominion Government has again assisted us wherever possible in this work.

Report of the Recorder of Brands

(S. G. CARLYLE)

During the year 252 horse brands and 644 cattle brands were recorded to their respective owners, while 103 transfers and 2 changes were registered. Certified extracts of brands numbered 9, searches 22, strays 4,484, and renewals 3,383 (cattle 2,152 and horses 1,251). The total number of transactions was 8,899.

Compared with 1930, these transactions show a decrease of 23 horse brands, 7 changes, and 617 strays, with an increase of 35 cattle brands, 1 transfer, 4 certified extracts, 8 searches, and 929 renewals, making an increase in total transactions of 330.

The number of brands issued to date are as follows: 38,920 horse brands and 58,772 cattle brands (inclusive of two-character brands). Two-character cattle brands number 7,034, making a total of 97,692.

Report of the Field Crops Commissioner

(E. L. GRAY)

Crop production in Alberta in 1931 was, on the whole, the most satisfactory of any year since the formation of the Province, when consideration is given to both quality and yield. The opening of the season was most unfavorable; moisture reserve was lacking, and the spring was marked by continual high winds. Severe soil drifting occurred in many districts, not only in the southern and eastern, or prairie regions, but also in the park belt and northern areas. June rains brought recovery to most crops except in that section of the Province lying east of range 20 and south of township 35; here continuance of the spring drought caused complete crop failures. Despite the reductions in average crop yields by such local failures, the provincial production was large, and the quality was exceptionally high; of the wheat crop marketed by the close of the year, the greater percentage was of the contract grades, namely, No. 1 and No. 2 Northern. The quality of other crops was equally high.

The estimated production of six leading field crops in the Province was as follows:

Wheat	136,000,000	bushels.
Oats	90,500,000	"
Barley	20,800,000	"
Timothy	235,000	pounds
Alfalfa	318,000	"
Sugar Beets	108,000	tons

The Provincial Seed Cleaning Plant, operated for some years by the Field Crops Branch for the Alberta Seed Growers' Association, did not operate in 1931, it being felt that the cost of shipping grain to a central plant could not be justified when commercial prices of grain were so low. The Branch maintained, however, a sales agency for the growers. The carry-over of grain in store at the plant from the operations of the previous year was disposed of. Sales of registered or certified seed direct from growers to purchasers at country points were effected. Car-load shipments were made of certain districts under a policy of Federal and Provincial aid; the two Departments agreed early in the season to share with the purchaser or purchasers of registered seed in car-load lots a premium of 15 cents per bushel and freight costs. Seed was supplied the Alberta Department of Municipal Affairs for its seed grain relief programme; over 90 car-loads of seed eligible for registration or for certification were delivered to this Branch before any grain of inferior quality had to be taken from grain companies for seed purposes. The following approximate quantities of seed were moved by the Branch:

1. Small Lot Sacked Shipments:

Registered Wheat	8,200	bushels.
Registered Oats	11,800	"
Registered Barley	100	"
Registered Sweet Clover	642	pounds
Registered Grimm Alfalfa	8,550	"
Certified Wheat	3,200	bushels
Certified Oats	500	"

Certified Brome	2,000	pounds
Certified Western Rye Grass	1,000	"
No. 1 Western Rye Grass	1,400	"
No. 1 Sweet Clover Seed	25,000	"
No. 1 Brome	2,200	"
Certified Seed Potatoes	820	bushels
No. 1 Barley	2,200	"
No. 1 Flax	110	"
Peas	20	"
2. Car-load Lot, Registered Seed Policy:		
Wheat	1,000	"
Oats	15,203	"
3. Eastern Canada Shipments:		
Wheat	1,300	"
Oats	7,200	"
4. Car-load Lot Shipments:		
Alberta Seed Growers' Association members to Alberta Department of Municipal Affairs. (Seed Grain Relief Programme.)		
Wheat	36,000	"
Oats	110,000	"

In July and August shipments of fall rye for seed were made, through the co-operation of the Dominion Department of Agriculture, to the drought areas of the Province. Distribution of the seed in small lots was made to those farmers who wished it for seeding on their summerfallows as a means of preventing soil drifting; preference was given to those men who agreed to seed it in strips with the object of ultimately establishing strip farming. A total of 4,400 bushels of seed were distributed, the main distribution centres being Carbon, Pollockville, Rowley, Acme, Cessford and Craigmyle.

It being decided not to operate the central cleaning plant in Edmonton, greater attention was given to the operating of portable grain cleaners at country points. The cleaners in operation during 1930 were remodelled in order that they might be capable of cleaning grain to registered seed grade. The Westeel and Stephens cleaners in use on each unit during the previous year were replaced by Monitor grain separators. These separators, coupled with a Carter disc, now completed the unit. Excellent satisfaction was given. The amounts of grain, estimated to the closest thousand, cleaned by the various units were as follows:

Vegreville	56,000	bushels
Strathcona	21,000	"
Raymond	15,000	"
Lacombe	16,000	"
Grande Prairie	10,000	"

Forty-seven Junior Crop Improvement Associations were formed with groups of boys from ages 14-22 years inclusive. The Alberta Wheat Pool sponsored 29 of these in wheat, supplying each competitor with five bushels of registered or certified seed wheat at its commercial value, delivered to the member's station, and granting a \$10 prize to the member in each association securing the highest award on the standing crop. The Western Canada Flour Mills Co., Limited, sponsored two oat associations by supplying the members with registered oats at commercial value. The Peace River Co-operative Seed Growers' Association, Grande Prairie, sponsored a third oat association at Grande Prairie. The Grimm Alfalfa Seed Growers' Association, Brooks, sponsored 15 alfalfa associations by supplying sufficient alfalfa seed to each member for one acre of crop at one-half its regular value.

The associations were most successful; a total of 537 boys joined those in wheat and produced, after natural losses by hail, etc., were

deducted, approximately 43,000 bushels of improved seed from their plots. A member of the Camrose club, Oscar Olsen, Ohaton, won first prize with his wheat sample in the junior grain classes at the Royal Winter Fair, Toronto, November, 1931. Thirty-seven members were listed in the oat associations, producing approximately 3,000 bushels of improved seed. Representatives took second to fifth prizes, inclusively, in the oat classes at the Royal Winter Fair, and a member of the Grande Prairie association, Peter Sebastian, won the Provincial oat championship at the Provincial Seed Fair, Calgary. Two hundred and two boys joined the alfalfa associations. Meetings were held with each association from time to time throughout the season, talks being given on seeding, care of seed plots, preparation of exhibition grain, and similar subjects. The autumn meeting took the form of a local seed fair, at which the members exhibited their grain. These local fairs were held at 25 different points, serving in some cases two or three associations.

The member in each association obtaining the highest aggregate score on the standing crop, the threshed grain, and on judging proficiency, was taken to Calgary for two days at the time of the Provincial Seed Fair. Transportation was supplied by the Provincial Department of Agriculture; accommodation in the city was given by the Calgary Board of Trade, assisted by Calgary firms.

The following Field Crop Competitions and Seed Fairs were held throughout the year, judges being supplied by the Field Crops Branch:

(a) *Field Crop Competitions*: Wastina, Hanna, Red Deer, Athabasca, Scapa, Wembley, Beaverlodge, Lacombe, Bear Lakes, Brooks, Craigmyle, Castor, Grande Prairie, Youngstown, St. Paul, Sedge-wick, Bindloss, Whitla, Calgary, Provost, Lethbridge, Lloyd-minster, Stettler, Morrin.

(b) *Seed Fairs*: Athabasca, Breton, Provost, Grande Prairie, Wetaskiwin, Leduc, Westlock, Camrose, Olds, Vermilion, Lousana, Busby, Lloydminster, Edson, South Edmonton.

The Provincial Seed Fair for the year was held in Calgary, February 9th to 12th, 1932. Through the co-operation of the Calgary Board of Trade an agricultural short course was organized in connection with it. The annual meetings of the Alberta Seed Growers' Association, and of the Alberta Branch, Canadian Seed Growers' Association, were held as usual. Accommodation was supplied by the Board of Trade for the meetings; the fair was held in the Loughheed Building, corner 6th Avenue and 1st Street West. Approximately 560 entries were made, 500 exhibits being put in place. A regulation of the fair was that those exhibitors who had won prizes at the International Hay and Grain Show, Chicago, or at the Royal Winter Fair, Toronto, were barred from the open classes; the distribution of prizes was more Province-wide than for some years.

The officers of the Alberta Seed Growers' Association for 1931 were: President, Clyde C. Gillies; Directors, Nels Linden, L. C. Anderson, P. W. Billwiller, Don H. Bark, E. L. Gray; Secretary, E. H. Buckingham.

Assistance was again given to Alberta farmers in exhibiting at the Chicago International Hay and Grain Show and the Royal Winter Fair, Toronto. The assistance at Toronto consisted of payment of entry fees and shipping costs on approved exhibits; the duplication of prize money at this fair was discontinued. The assistance at Chicago consisted of the paying of shipping costs and the duplication of prize monies, with special honoraria for championships and first prizes. The winnings of Alberta exhibitors at both shows created a record. At the Royal Winter Fair, Toronto, Alberta exhibitors secured six out of the nine prizes offered in the Hard Red Spring Wheat class, including the first three prizes; in the major oat class, they obtained first and second; a good percentage of the prizes in the other classes also came to the Province. Fifty-four exhibits were sent to Chicago and obtained 45 regular prizes, additional to two championships and three reserve championships.

Outbreaks of grass hoppers occurred at various points in the southern part of the Province. The localities affected were very widely distributed; in none was the outbreak of a very serious nature. It was found necessary, however, to undertake the distribution of poison bait in the districts adjacent to Bindloss, Carmangay-Lomond, and Taber-Medicine Hat. Following is a synopsis of the programme:

Number of outbreaks (small)	20
Number of outbreaks (large)	2
Total.....	22
Number of townships concerned	140
Number of quarter sections infested	2,202
Number of mixing stations	12
Amount of poison bait (wet weight), (est.), pounds.....	986,700
Number of acres saved Carmangay-Lomond territory (est.).....	59,848
Number of acres saved Taber-Medicine Hat territory (est.).....	12,000
Number of acres saved Bindloss territory (est.)	8,000
Total (estimated)	79,848
Number of acres destroyed Carmangay-Lomond territory (est.).....	8,709
Number of acres destroyed Taber-Medicine Hat territory (est.).....	4,085
Number of acres destroyed Bindloss territory (est.)	1,000
Total (estimated)	13,794

A general weed control programme was carried on throughout the year, including both educational work and enforcement of The Noxious Weeds Act. The Advisory Weed Board, consisting of the same membership as in 1930, held one meeting in the year, on February 26, 1931.

A short course for weed inspectors was held at the University of Alberta from March 30th to April 1st, 1931. Approximately 70 attended the course. Lectures were arranged through the co-operation of the University of Alberta. The practice of issuing certificates was discontinued, it being felt that such certificates did not carry much value in weed organization.

The field force of the Department for the season consisted of 14 field supervisors. In addition to the field supervisors, 26 inspectors were appointed for weed control in 120 improvement districts. The programme of investigational work in the control of weeds by chemicals was carried on as in 1930. Through the co-

operation of the Canadian Pacific Railway Company an experimental centre was established in the Brooks district. Mr. P. D. Huxley, B.S.A., was stationed there during the summer season to carry on part of the programme which had previously been centred entirely at Raymond. Mr. W. G. Smith, Raymond School of Agriculture, supervised the experiments, continuing as well the major portion of the original programme at Raymond. A mimeographed report on the results obtained with commercial chemicals prior to 1931 was prepared. Several hundred copies of these were distributed throughout the year.

Special grants were made to school fair organizations to increase the first, second and third prizes for weed collections at the school fairs by \$1.00, 75 cents and 25 cents respectively.

The usual requirements for weed posters and literature were supplied from the Field Crops Branch office.

A programme for creating more Province-wide interest in grass and legume crops was commenced at the opening of the year. Reference has already been made to the alfalfa clubs organized among junior farmers. In addition to these, with the co-operation of the Dominion Department of Agriculture, forage crop seed was supplied to members of the Alumni Association of the Provincial Schools of Agriculture. Each member making application, received sufficient seed for one acre of grass and one acre of legume. A total of 304 members participated in this distribution, receiving the following quantities of seed:

LEGUMES		GRASS	
Alfalfa	2,440 lbs.	Brome Grass	1,580 lbs.
Sweet Clover	470 "	Western Rye	950 "
Alsike	104 "	Timothy	80 "
Red Clover	48 "	Red Top	168 "
Total.....	3,062 lbs.	Total.....	2,778 lbs.

In addition to the above, certain farmers were selected in districts of the Province and supplied with small quantities of special seed of those crops which, it was felt, should be developed in their districts, with the object of having them become seed producers.

In the spring of the year we prepared two mimeographed circulars, one on "Seeding Grasses and Legumes" and one on "Seeding Alfalfa." The object of these was to disseminate up-to-date and practical information on the seeding of legume crops, it being felt that Alberta farmers have suffered large losses in recent years in failing to secure "catches" of such crops. Approximately 1,000 copies of these circulars were distributed.

The general work of the Field Crops Branch, such as answering enquiries at the office, correspondence on Field Crop matters, and sending speakers to meetings throughout the Province, was unusually large in 1931. Our records show that men from the Edmonton office attended a total of 135 meetings throughout the year.

Report of the Poultry Commissioner

(G. M. CORMIE)

The year 1931 will go down as one showing record production from the farm flocks of poultry in Alberta. The total of eggs inspected during 1931 by the Federal Inspection Service in the Province was 83,779 cases, or more than 2,500,000 dozens, which of course is a small proportion of the total egg production. Of the total inspections, some 79,836 cases, or about 180 car-loads, were exported. This is an increase of 675,000 dozens over the previous high record of 1924, or 50 car-loads. In the fresh egg grades more than 50% of these were in the two top grades. The imports, of which there is always a certain amount each year, totalled 4,300 cases for 1931, or about 10 cars. All of these were brought in from B.C. at a time when local supplies were depleted.

This unusually high production was due to a number of causes. The mild winter of 1930-31 resulted in farm flocks laying almost as well in the winter as in the summer months. On account of the low market price for other farm produce and the low price of grain, flocks were cared for better, and greater production resulted. Many farmers and poultrymen, who previously had given little attention to poultry, found that here was one source of regular weekly income, even if the price paid for eggs was lower than pre-war prices.

In many sections of Canada and elsewhere, when the world-wide depression struck the poultry industry, flocks were greatly depleted, and in many cases disposed of entirely. This was not the case in Alberta, and the end of 1931 finds Alberta with a full complement of breeding stock on hand. The tendency of our people is to increase rather than decrease the poultry holdings.

ORGANIZED MARKETING

In the districts where poultry raisers are organized, as well as progressive individual poultrymen, due to the low wholesale prices paid for eggs, sought the retail channels of our cities and mining camps. This proved a remunerative outlet for the quality product they were able to raise in quantities large enough to enable them to cater to such a class of trade.

In spite of the high production during the year, and the generally low prices paid, the months of September to December inclusive proved to be an unusually profitable period. Feed costs were the lowest on record, while egg prices to retail stores and to consumers were as high as 55 and 60 cents a dozen for fresh extras. This condition prevailed right to the end of the year. It is interesting to note in 1930 the market broke on December 15th.

Early in the year, at the request of the Alberta Bronze Turkey Breeders' Association, a visit was made to the All-American Turkey

Show in North Dakota and to the plants of several outstanding breeders in the Central and Western States. The object of the trip was to observe the quality of stock exhibited in the United States, and if possible to buy breeding stock that would improve Alberta flocks.

Fourteen birds in all were secured for several of the more prominent breeders as well as for the Provincial Poultry Farm.

As a result of the introduction of the new blood, great improvement has been made, more particularly in regard to standard type. It was found that the breeders visited had little to offer that would improve the size or meat qualities of our stock, which is rated very high.

One of the turkey toms imported to the Province won the Canadian championship at Toronto. The same bird was grand champion of the Alberta Provincial Poultry Show, as well as winning the trophy for the best bird in the show, including 1,300 entries in all varieties of poultry. It also won for the first time on record in this country, the prize for the best "parti-colored" bird in the provincial show.

The R.O.M. turkey improvement policy, carried on in conjunction with the Alberta Bronze Turkey Breeders' Association, continues to function satisfactorily. While the number of breeders offering stock for inspection has decreased the last two years, this was to be expected. During the first years this policy was in effect, many breeders having mediocre stock, and not fully realizing what was required in good breeding turkeys, applied for inspection. Many of these have greatly improved their flocks and continue as first-class breeders, or else they are raising market turkeys only.

The actual number of breeders continuing in the Association is 119. The number of turkeys inspected and individually identified by the Poultry Branch for the year 1931-32 is 2,065, classified as follows:

Grade A	189
Grade B	1,035
Grade C	841

The prices agreed upon by the Association at which banded turkeys shall be sold are reduced about one-third, and are as follows:

Grade A	Toms	\$25.00	Hens	\$15.00
Grade B	Toms	10.00	Hens	8.00
Grade C	Toms	7.00	Hens	5.00

A complete report of the formation of Alberta Accredited Flocks and the purpose of these organizations will be found in the 1929 report of this Department. It will not be necessary, therefore, to repeat it.

While the various units enjoy steady growth, only one new unit, located in the Bonnyville district, was organized in 1931. As it take some capital to provide the stock and equipment necessary to qualify for acceptance in the scheme, the financial depression hindered progress in this branch of poultry promotion work.

Organized marketing by each unit, direct to the retail and consuming trade in the cities, marks the greatest advancement of the Accredited Flocks for the year 1931.

A definite advertising programme has been introduced by the Brant group to popularize the use of their eggs and poultry in the City of Calgary.

The Alberta Approved Flocks, undertaking the "Hundred Day Winter Trapnest Test," are affiliated with the Registered and R.O.P. breeders in what is known as the "Alberta Registered, R.O.P. and Approved Flocks Association."

This group embraces the official trapnest breeders of the Province, and constitutes an important source of good breeding stock, hatching eggs and baby chicks.

The organization issues an annual price list, which is widely distributed.

The entry in the 1931-32 Winter Trapnest Test is 59 flocks, totalling 3,474 birds. A report of the results of the Winter Test is published annually and is available free of charge.

During the year four publications have been made available for free distribution, namely: "Turkey Production," "Report of Alberta Approved Flocks," "Feeding Directions," and "Poultry House Plans."

The Provincial Poultry Plant at Oliver, near Edmonton, is maintained for demonstration and experimental purposes and as a supply farm for the Mental Hospital, as well as to provide a limited supply of high quality breeding stock for the farmers of the Province.

The turkey flock has been greatly improved by the importation of several birds, and now is rated as one of the best in the Province.

Considerable success has attended the pheasant raising experiment, approximately 500 pheasants being raised by means of incubators and brooders. As a result of adding canned tomatoes to the standard ration used for raising turkeys, much of the trouble experienced other years in raising the baby pheasants was overcome.

It is planned to release several hundred in the spring of 1932.

Barred Plymouth Rocks, White Plymouth Rocks, Single Comb White Leghorns and White Wyandottes are the breeds of egg-producing poultry kept on the farm.

All pullets are trap-nested, and only those with records of over 200 are retained as breeders to replace the flock from year to year. In addition, some selected birds in all breeds are mated to supply hatching eggs and baby chicks for sale.

The Agglutination Test for Pullorum Disease (Bacillary White Diarrhoea) has again been provided the organized flocks of the Province. This test, carried on jointly by the Provincial Laboratory, University of Alberta, and the Poultry Branch, costs the breeder only 2½ cents per bird.

Some 30,000 tests have been taken, making available a large supply of hatching eggs from B.W.D. free birds. The number of requests for this test is much greater than the number we have been able to make.

During the year speakers were sent out as requested to address poultry meetings. A poultry speaker also attended many of the Agricultural Short Courses held in the Province.

A large amount of flock culling work was done. Flock culling, killing and dressing demonstrations were put on at a number of points requesting same.

To encourage the finishing of poultry on the farms, house-to-house visiting was undertaken in the Camrose, Daysland, and Killam districts. These districts have annually assembled car-loads of finished poultry for shipment to eastern markets. Information with respect to the candling and grading of eggs, and the preparing of poultry and eggs for market, was made available to the people of the Province by the Federal Egg Inspectors.

ROYAL WINTER FAIR

Alberta made a fine showing at Toronto again this year. In turkeys, with 13 birds exhibited, the following prizes were won: Grand Champion Turkey in Show, 1st Yearling Male, 1st Adult Male, 4th Young Hen, 5th, 6th and 7th Young Males, 5th Adult Hen, 6th Adult Male.

In small poultry, 60 birds entered won: 1 Special, 9 Firsts, 10 Seconds, 5 Thirds, 2 Fourths, 1 Fifth.

Mr. Douglas Thornhill was chosen by the breeders to accompany the exhibit to insure the birds being well cared for and exhibited.

Report of the Game Commissioner

Heavy rainfall in the northern and central parts of the Province during 1931 resulted in conditions more favourable for waterfowl. Many lakes and sloughs, formerly dry, are now filled with water, and ducks were reported to be fairly plentiful in this area during the past season. It must be borne in mind, however, that the numbers of these birds has tended to decrease steadily over a period of years. A combination of favourable conditions and wisely directed conservation measures are necessary if these birds are to be satisfactorily maintained.

Conditions appear to have been fairly satisfactory with regard to upland game birds. Of these it may be noted that the Hungarian partridge continues to increase rapidly, and is each year distributed over a wider area. The ring-necked pheasant as a game bird in this Province is receiving considerable attention and a number are propagated each year. Observations made to date of those liberated encourage the belief that they may prove valuable.

Big game is fairly plentiful in forest reserves. This is particularly true of elk in the area between the North Saskatchewan and Athabasca rivers, where these animals have been given a close season since 1910. A steady increase is reported in the number of antelope in that part of the Province south of the Red Deer river. Deer and moose are endangered by the advance of settlement in many districts, and particularly by the fact that road construction, making possible the use of motor cars and trucks, has made hunting grounds easily accessible.

During the hunting season of 1930 a total of 2,599 moose and 2,981 deer was reported by sportsmen on their license as being killed. The total number of big game animals taken was 5,887, an increase of 477 over the previous year, which in turn was approximately 100% greater than in previous years.

The number of fur-producing animals taken during the season ending June 30th, 1931, shows an increase over that of the previous year. For the season 1929-1930 the total number of pelts was 770,377, with a total valuation of \$1,183,869.63, while that for the year closed was 941,401 pelts, with a total valuation of \$1,023,653.00. It will be noted that while the total catch was greater, there was a decrease in value as a result of lower price levels.

The following tables show the number of the different species of pelts, total value and average value for each pelt produced in Alberta:

Kind.	No. of Pelts.	Aver. Value of Pelts.	Total Value of Pelts.
Badger	3,689	\$15.00	\$ 55,335.00
Beaver	206	14.00	2,884.00
Wolverine	19	18.00	342.00
Squirrel	247,991	.10	24,799.10
Ermine (Weasel)	119,827	.90	107,844.30
Otter	193	20.00	386.00
Wolf (Prairie)	10,486	10.00	104,860.00
Wolf (Timber)	205	15.00	3,075.00
Lynx	1,537	25.00	38,425.00
Marten	898	16.00	14,368.00
Skunk	6,673	1.50	10,009.50
Bear	873	5.00	4,365.00
Fisher	17	50.00	850.00
Rabbit	23,414	.05	1,170.70
Fox (Silver, Black)	7,466	40.00	298,640.00
Fox (Cross)	1,333	50.00	66,650.00
Fox (Red)	2,411	20.00	48,220.00
Fox (Kit)	16	2.50	40.00
Fox (Blue)	70	35.00	2,450.00
Fox (White)	38	35.00	1,330.00
Muskrat	510,036	.60	306,021.60
Mink	3,235	8.00	25,880.00
Gopher	610	.....	.....
House Cat	111	.30	33.30
Dog	2	.....	.....
Raccoon	4	7.00	28.00
Marmot	41	.50	20.50
	941,401		\$1,118,027.00

A limited number of muskrat and beaver permits were issued south of the North Saskatchewan river, the number of these together with pelts taken thereunder being as follows:

Muskrat Permits Issued	225
Musk rats Reported Taken	11,811
Beaver Permits Issued	49
Beaver Reported Taken	171

There was an increase of \$8,527.01 in the total revenue obtained from various sources as provided for under The Game Act, indicating an increase in the number of licenses issued and in the fur tax collected. The total revenue from various sources was as follows:

Resident's Bird Licenses	\$21,514.50
Resident's Big Game Licenses	16,531.00
Fur Tax	39,781.35
Various Licenses, Sale of Fur, etc.....	20,778.75
Total Game Revenue.....	\$98,605.60

The Fur Marketing Service was continued for the season 1930-31, with the result that there was a total turnover of \$33,551.97; this consisted of 1,083 shipments from 710 shippers.

Regulations were again adopted for 1931, as in previous years, to provide for the payment of prizes to competitors who destroy crows and magpies. The result of the competition shows the following:

Crows and Magpies	63,526
Gophers	836,165
Crows and Magpies' Eggs	213,153
Total destroyed by School Children:	
Crows and Magpies	43,571
Gophers	486,248
Crows and Magpies' Eggs	160,098
Total destroyed by Adults:	
Crows and Magpies	19,955
Gophers	549,917
Crows and Magpies' Eggs	53,055

The number of fur farms reported shows that there were 260 licensed persons, or companies, carrying on fur-farming operations within the Province. The regulations dealing with this matter provide that a report shall be submitted yearly on or before the first day of September. These reports show the number of the following animals as being on fur farms in Alberta as at September 30th, 1931:

Badger	62	Fox (White)	10
Beaver	459	Marten	38
Coyote	35	Mink	3,331
Fisher	22	Muskrat	80,340
Fitch	135	Rabbit	135
Fox (Blue)	869	Raccoon	102
Fox (Cross)	1,028	Lynx	4
Fox (Red)	361	Sheep, Karakul	71
Fox (Silver)	19,764		

The railway companies have given splendid co-operation in the matter of the prevention of fires, not only by maintaining proper fire-guards and keeping the right-of-way clear of inflammable matter, but by also maintaining fire preventative appliances provided for by the regulations of the Board of Railway Commissioners.

Report of the Provincial Veterinarian

(DR. P. R. TALBOT)

The work of this Branch has increased considerably during the past twelve months. This may be explained by the fact that there is a great scarcity of good veterinarians in the Province of Alberta, and the low prices of livestock make it hardly worth while, except in special cases, to call in expert veterinary services. In addition, there are many farmers—particularly in certain sections—who are not financially able to pay for reliable advice along these lines. The result has been that this Branch has been called upon continuously for aid, not only to make personal investigations when outbreaks occur, but to offer suggestions in numerous cases over the telephone, from the farthest northern point to districts in the extreme south. Combined with the above, we have had the general supervision, from a health standpoint, of the livestock kept at the various Government institutions.

As was the case last year, we have conducted lectures at different times at the Schools of Agriculture, as well as conducting the regular classes in Veterinary Science at the University. We have increased our investigational work and, in conjunction with the Laboratory at the University of Alberta, have made many post-mortem examinations upon carcasses of animals that have been sent to us from practically every district in the Province.

Like other provinces in the Dominion of Canada, swine diseases have taken a large toll in Alberta during the past year. The losses in this Province—among young pigs especially—have been considerable, the most outstanding causes probably being Hemorrhagic Septicemia, Anaemia, Hog Influenza and Pneumonia. Also in certain sections parasites have been very prevalent. In regard to the first-mentioned trouble, this will be taken up later under the general heading of Hemorrhagic Septicemia. We have done considerable work in attempting to control parasites in swine. Proper treatments have been recommended, and the attention that should be given to sanitation has been stressed as being of prime importance. We realize, of course, that the last-mentioned condition is more common in some districts than others, and on farms where swine have been kept for several years the trouble appears to be more marked. Fortunately, certain treatments may be given that will prove most efficient. We have made it a point to try out new preparations in the way of treatment for parasites in swine at every opportunity. Our idea in doing so was to prevent the farmers of this Province from spending money on unreliable remedies, and we believe that we have been in a position to state definitely the most reliable preparations.

We would again like to call attention to the disease known as Hemorrhagic Septicemia, that has caused considerable losses in both cattle and swine during the past year. On different occasions

shipments of cattle, purchased at various shipping centres, upon arrival at their destination developed the disease, and before the outbreak could be stopped several deaths resulted. We have been asked repeatedly by those concerned in these losses if the animals were affected prior to loading. For the information of those shipping cattle from one point to another, we would state that the period of incubation has been found to be from one to three days. It will therefore be easily seen how death might take place in a large number of cattle in a short space of time, especially if the animals were several days in transit. It is generally known that exposure to cold and shortage of feed and water are supposed to produce a susceptibility to the organism causing this condition. It is also generally accepted that we have two forms of Hemorrhagic Septicemia in cattle; these are designated as the pectoral or pneumonia type, and the other as an intestinal form. A great deal depends upon the severity of the attack, but as a rule, unless treatment is given in the early stages, death may occur at any time from six hours to six or seven days. Feed conditions are known to be one source where the animal can contract the organism, and if the fodder given is mouldy, heated, or has been damaged by bad weather, it should be regarded with suspicion. The control of Hemorrhagic Septicemia by vaccination has been in practice for some time now, and we believe that it is a reliable means of preventing the trouble. We advise the use of immunizing agents that are sold by reputable biological houses, which as a rule may be secured at the local drug store. As regards Hemorrhagic Septicemia in swine, as seen in this Province, it is of the pneumonia type. Although vaccination is practiced by some as a preventive against the condition, it is our opinion that by isolation of the animal affected and the careful disinfection of the premises, the trouble can be controlled to a considerable extent. This Branch has under observation a small experiment in the way of prevention and control of Swine Septicemia that, if proven as efficient as it would appear at present, may furnish the swine breeders with information relating to the prevention of this disease that will reduce the losses, and in addition save considerable money in the purchase of expensive preventives.

Contagious abortion disease is still demanding the attention of livestock men the world over, and there are still differences of opinion as to how best to handle the problem. Some authorities recommend what is known as the Agglutination Test for the detection of the animals affected with the abortion bacilli, and the separation of reactors on a different part of the farm, or the slaughtering of them at the packing plant. Other investigators have shown that many of the animals that react to the above-mentioned test evidently become non-reactors, and they suggest that the disposal of them is an unnecessary waste. They also claim that the separation of the healthy from the unhealthy cattle is an expense that few farmers can undertake at present, as it would necessitate two sets of buildings and equipment, as well as additional help. Owing to the statements that have been given out by various experimental stations in the United States, we have been recommending the suggestions made by some of the authorities who have

been conducting these investigations; that is, the immediate isolation of the cow showing symptoms of the condition, and the careful disinfection of the premises. We believe that if these instructions are carried out, many losses can be prevented and many outbreaks of the disease checked. Unfortunately, it is difficult to make the majority of the dairymen understand the importance of these instructions, and their losses are frequently considerable before they will take any definite stand in the way of combatting the disease. We are rather inclined to think that this condition will sooner or later be successfully controlled by vaccination. The efforts that are being made by many investigators, especially in Great Britain and other European countries, along the lines of immunization, are anticipated to prevent and control the trouble. We are aware that various practitioners in the Province have already experiments under their supervision that are composed of herds treated by vaccination, and from our observations we believe that the owners have derived beneficial results from same. We have also at one of our Government institutions an experiment of considerable proportion in which the animals have been vaccinated with a special vaccine, and it is our intention to carry these animals along for a period of time while being exposed to infection, in order to see if immunity has been produced.

Combined with contagious abortion are diseases from the reproductive organs, the chief amongst them being sterility. Our work in connection with this problem has been greatly extended during the past year. We have treated a large number of valuable animals in practically every section of the Province. These animals were registered, and had in some instances cost the owners large sums of money, and the fact that they had ceased breeding meant a tremendous loss to these men. We have the satisfaction of knowing that a large majority of these treated animals are now breeding again. This has not only been satisfactory to the owners themselves, but the Province has derived benefit from this fact by the improved condition of the livestock treated. It is our opinion that the large number of dairy cows suffering from sterility, more particularly in certain sections of the Province, may be due to nutritional deficiency. Many of our dairymen know little regarding a balanced ration; neither do they know how necessary it is to add to the feed badly required minerals. These are indications that point to certain farms as being particularly lacking in one mineral only, and in such cases success in establishing breeding efficiency is almost impossible without the addition of this element in the diet. We believe valuable investigational work could be done in connection with sterility in cattle. Up to the present we have confined our activities to the treatment of individual cases entirely, but on account of the losses through sterility to the cattle industry we feel that when financial conditions improve more definite experimental work could be done to differentiate, if possible, the cases that are caused by mineral, vitamin, iodine or bacterial infection.

Sweet clover is becoming an important crop in many sections of the country. On account of its ability to produce humus, improve and penetrate soils, we find that it is a popular forage crop, par-

ticularly in some sections of the country. It is also meeting with considerable favor as a hay crop and as a valuable forage to place in the silo. The unfortunate part in connection with sweet clover hay and sweet clover ensilage is, that it seems to be easily spoiled, and is a common cause of disease. Not all the spoiled hay or silage is responsible for trouble, but apparently in some years the loss is more frequently met with than in others. From our observations in Alberta we find that this disease occurs principally in young cattle, although it is seen occasionally in older ones. It is not necessary to go into the symptoms fully here, other than to mention that swellings are frequently seen in the fleshy portions of the body, and hemorrhages occur in the tissues through the blood vessels. Although the disease is supposed to be more common through the feeding of hay or ensilage, we have seen it upon several occasions in animals eating sweet clover at pasture. It is well known that if an animal has undergone a recent operation, and then given sweet clover hay and placed on sweet clover pasture, death is almost always the result. There is considerable variation in the time required for the appearance of this trouble after the animal has been given the bad feed. It appears in most animals between the 10th and 22nd day, and those who are feeding this particular kind of forage should remember that the symptoms are likely to appear at any time during the above-mentioned period. On account of the similarity between sweet clover poisoning, hemorrhagic septicemia, and blackleg, the diagnosis of the trouble is most difficult without the opportunity of a microscopic examination. The history of the case is most useful. If the animals that are affected have been fed on sweet clover, this form of poisoning should be immediately suspected. Treatment, up to the present, has been unsatisfactory, from a layman's point of view. However, I believe there are possibilities in the way of medicinal remedies if one could be given the opportunity to do experimental work along these lines. On account of the popularity of sweet clover as a hay, especially in certain sections of Alberta, we wish to warn those feeding it to be particularly careful to prevent the giving of any of the feed that has become mouldy or spoiled in any way.

Our work in connection with bovine tuberculosis is still being carried on. In conjunction with Dean Rankin, of the University of Alberta, and under the direction of the National Research Council of Canada, we have under way an experiment in this Province in connection with the vaccination of calves with B.C.G., or Calmette vaccine. It is said that this is the largest experiment of its kind being conducted at any experimental station. We have in addition to this, a large number of animals vaccinated at some of the Government institutions, and from the apparent results that we are obtaining, we are satisfied that our work is progressing favorably. We also have a considerable number of animals vaccinated with Dr. Raw's vaccine. This particular experiment has been carried on since 1925, and it is our intention to proceed with it for some time to come. The large number of animals under our experiments, and the necessity of keeping them in different places, makes the work all the more difficult. The reports of our experiments with tuberculosis have been discussed at conferences in almost every country

of the world, and I think it is generally conceded that no other province in the Dominion of Canada has given support and co-operation to the investigation of bovine tuberculosis equal to that of Alberta.

There have been many cases of typhoid influenza in horses reported to this Branch during the year, and in some localities the losses were particularly heavy. This may be accounted for by the fact that weather conditions in these sections were favorable to febrile diseases. In addition, the most serious losses occurred in the northern sections, where contract work was under way, and when the disease was once introduced, the large number of animals congregated at one point made it much more difficult to handle than if the animals had been on individual farms. Also, there is a possibility that many of the affected animals coming from southern Alberta were susceptible to the organism causing influenza; at least, there seemed to be a marked susceptibility in many of these animals that had recently been brought in from that part of the country. Unfortunately, these outbreaks occurred in sparsely-settled districts, where the services of a veterinarian were not available, with the result that it necessitated considerable assistance from this Branch in an endeavor to get the condition under control. In all outbreaks it is indicated that if treatment can be started in the early stages of the disease, recovery as a rule can be brought about. Frequently, however, the sick animals are not detected until the symptoms are well established, when complications arise that frequently prove fatal. In the way of prevention, stables may be protected against the introduction of the infection by subjecting newly-purchased horses to an isolation of at least one week. When new horses are brought into the district every precaution should be taken that they secure their drinking water from a source that is known to be wholesome, as well as preventing these animals from having access to stagnant sloughs or ponds that contain quantities of decayed vegetation. Vaccines against this trouble are sold by reliable druggists throughout the country, and beneficial results are usually obtained following their use, but we believe their efficiency lies in the early administration of them, causing a lessening of the severity of the attack.

The recent growth of fur-farming activities has increased our work to a considerable extent. Requests for information regarding the diseases of fox, mink, muskrat, marten and skunk are of almost daily occurrence. We realize that the fur-farming industry represents a large financial investment in Alberta, that the entire value of these animals is embodied in their coats of fur, and that every slight irregularity in their health and hygiene has a pronounced effect on the appearance and worth of their pelts. One can, therefore, understand the alarm of those interested in this occupation when losses occur from either epidemics peculiar to these animals or from an unknown origin. Fur-bearing animals, like domestic livestock, if congregated in large numbers on small areas, are prone to the spread of infection, and this Branch has always brought to the attention of the fur farmer at public meetings and by bulletins the hygiene and sanitation measures necessary for disease control. It is our opinion that we may never have to contend with parasitic

problems to the same extent that do the fur farmers in the eastern parts of Canada, for our extreme weather conditions should be antagonistic to parasitic development. It is our view, however, that the necessity of sanitation should nevertheless be impressed upon our fur men. I have only to point out that most of our fur-bearing animals were recently transferred from the wild state to domestic environments, and it would appear that they are highly susceptible to both bacterial infection and parasitic infestation. We believe that many of the troubles of fur-breeding animals in captivity are caused by faulty feeding, and until more investigational work has been done upon this subject, little sound advice can be given to the owners in this regard. In connection with bacterial infection, we have been working in conjunction with the University Laboratory, in a careful pathological examination of carcasses of animals sent in to us. The results of these examinations should furnish us with a large amount of valuable information that can be used to great advantage later on, in controlling many of the outbreaks of disease in this class of animal.

Stallion Enrolment Report

(DR. P. R. TALBOT)

There has been a slight increase in the number of stallions enrolled with this Branch during 1931 over the previous year. It would appear as if through necessity the demand for horses was slowly but surely increasing. For some years past there has been a tendency among many farmers to discontinue the breeding of horses, as it was believed that they could be purchased at a much smaller cost than by raising them. This may have been true from a financial viewpoint, but it has certainly not improved the demand for high-class stallions for breeding purposes. It would appear at present as if many farmers were intending to start raising horses for their own use again, and there is every indication that there will be an insufficient number of high-class heavy draft stallions to supply the demand. We have consistently advocated the raising of a few colts on the farm each year; we have endeavored to see if possible that stallions were placed in the districts where they were needed the most, and for several years, when the farmer was inclined to believe that mechanical power was going to replace the horse entirely, we maintained that for many farmers, especially in the central and northern parts of Alberta, horse-power was still the safest and most economical method for him to follow. We believe the position of the farmer today indicates that the raising of a few horses each year was a sane and practical procedure. We have endeavored by our stallion inspection to improve the quality of our stallions, and although the number is greatly decreased from some years ago, there is a certain percentage of young stallions coming on that will do the country a considerable amount of good. We think that there is also a market in eastern Canada for a certain type of our horses if the breeding is carried out along certain lines. For the past three years the auction sales held at both High River and Lacombe have indicated that the Province of Quebec especially wants horses, and is willing to pay the price providing she can get what she desires in weight and conformation. However, the breeders are not making the effort they should in securing this market, which can only be done by proper selection and breeding.

It was disappointing to find that the Dominion Government Policy, as regards the clubbing of stallions, did not meet with the support that it should have. It appeared as if the system of placing high-class stallions in districts throughout the Province was an ideal one, but the criticism offered by many horse men was the strict examination by the inspectors before a stallion could pass the requirements for clubbing purposes. This resulted in a considerable number of horses being turned down which, many thought, deserved a higher rating. Personally, we believe that horses put out under such a system should be the best attainable, but a more satisfactory inspection might be worked out, and much confusion

avoided, if the inspection board consisted of men selected by both Dominion and Provincial Governments.

The breeding of thoroughbred horses has developed rapidly in the Province during the past few years. The placing of excellent thoroughbred stallions in the southern, central and northern districts of Alberta by various breeding associations is one of the outstanding features in the improvement of light horses. Not only is encouragement being given to the raising of horses suitable for hunters, but numerous thoroughbreds of our own raising and of the very best quality and breeding are racing on the tracks of western Canada. It is an accepted fact that Alberta is particularly suitable from many standpoints for the breeding and rearing of horses, but it was not until recently that she received the recognition she deserved as a province having so many natural facilities for breeding light horses. We believe that before long this industry will be one of the greatest assets we have.

The following is the number of stallions, according to breed, that were enrolled in 1931:

	1930.	1931.		1930.	1931.
Percheron	157	183	Standardbred	2	2
Clydesdale	91	83	Suffolk	1	3
Belgian	57	59	American Saddle	3	1
Thoroughbred	23	21	Hackney	1	1
Shire	10	10			

Report of the Farm Director

Production of field crops on Provincial Farms during the past year has been fairly satisfactory. At Olds, Oliver and Vermilion yields were considerably above normal. An average crop was harvested at Raymond, and while production was slightly below normal at Claresholm, the quality of grain and forage was very high. At Gleichen and Youngstown wind and drought combined to limit returns to a very low level. That part of the Gleichen farm which is under irrigation produced an excellent crop of alfalfa which, with the oats and green feed grown supplied sufficient feed for livestock. Seeding at Youngstown was delayed so that no reseeded was necessary. A light crop was harvested which was sufficient to fill the silo and provide almost the entire feed requirements of the livestock of that point. Total production of field crops were as follows:

Oats	39,871 bushels	Alfalfa	233 ½ tons
Barley	8,551 "	Sweet Clover	130 "
Wheat	960 "	Silage	774 "
Green Feed	720 tons	Beets	270 "
Tame Hay	315 "		

All livestock made satisfactory progress throughout the year. Two hundred and eighty-four pure-bred animals were registered, and 198 were sold to farmers of this Province for breeding purposes. In addition to these, 200 animals were sold for slaughter. There was a keen demand for breeding stock, although prices were somewhat lower than usual, in keeping with the general tendency to lower price levels. A brief record of livestock kept at each farm follows:

CLARESHOLM

On this farm there is a herd of Ayrshire cattle, a flock of Shropshire sheep and a herd of Yorkshire swine. With reference to the dairy herd, I am pleased to report that the young stock, sired by our imported sire, South Craig Prince John, is of excellent quality, and the herd is showing satisfactory improvement. There is a keen demand for young bulls from this herd, and all offerings to date have been readily purchased by breeders within the Province.

GLEICHEN

There is at this farm a small herd of Aberdeen-Angus cattle and a flock of 30 range ewes. These ewes have been crossed with the pure-bred Cheviot ram, and constitute a part of an experiment in the production of market lambs.

OLDS

The herd of Shorthorn cattle at this farm forms the greater part of the livestock kept. There are two excellent imported sires at the head of the herd. In addition to the Shorthorns, there is a small herd of Guernseys, also Shropshire sheep and Yorkshire swine.

The Percheron horses at this farm are worthy of special mention. There are nine registered females and four geldings. The young stock is sired by the imported stallion Job No. 84808, and are of excellent quality.

OLIVER

The herd of Holsteins at this farm continues to be one of the outstanding herds of the Province. A number of very satisfactory records were made during the past year, among which was that made by Muriel Bell Alcartra 2nd No. 62889. This mature cow produced 26,711 pounds of milk and 960 pounds of butterfat in 365 days.

A number of the Clydesdales at this farm were exhibited at the Royal Winter Fair, Toronto, in November. In addition to other prizes, the stallion Emigrant's Masterpiece was placed second in the aged stallion class in very strong competition. Besides the livestock already referred to, a large herd of Tamworth swine and a small flock of Hampshire sheep are maintained.

RAYMOND

The herd of pure-bred Holsteins formerly kept on this farm has been removed to Oliver, and a small herd of pure-bred Herefords substituted. In addition to these animals, 100 range calves are on experimental feeding for the purpose of determining the value of certain feeding practices in connection with the production of "Red Label Beef" in this district. Shropshire sheep and Yorkshire swine are also kept at this farm.

VERMILION

The most important part of the livestock on this farm is the dual purpose Shorthorn herd, which is headed by Neraclam Dominator, a son of Fairy Duke, an outstanding sire of the breed. The females of this herd have all been placed on Record of Performance, and a large number of very satisfactory records have been made. The young stock combines beef and milking quality in exceptional degree, and there is keen demand for the young bulls from this herd.

Oxford sheep and Yorkshire swine are represented.

YOUNGSTOWN

At this farm a herd of grade Shorthorns and a flock of pure-bred Shropshire sheep are maintained.

At the various farms a number of experimental projects are in progress. As already mentioned, steer-feeding experiments are being conducted at Raymond. Cross-breeding for the production of market lambs is being carried on at Olds, Claresholm and Youngstown, the cross used being Cheviot-Shropshire, Southdown-Shropshire, and Cheviot-Merino. At Oliver and Vermilion a number of crosses in hogs have been made, and feeding tests are being

conducted to determine the relative economy of gains made by pure-breds vs. cross-breds.

Under the direction of the Provincial Veterinarian a number of experiments in control of and immunization against animal diseases are being conducted at the various farms.

At Youngstown, where soil-drifting is a serious problem, an attempt is being made to test the value of strip farming as a means of control.

Report of the Provincial Apiarist

(S. O. HILLERUD)

The past season has been unsatisfactory from the standpoint of the beekeepers as regards colony yields and market prices. After the abnormally large crop of 1930, the 1931 season proved discouraging. In the Lethbridge area during the last two weeks of June and the first week of July high winds prevented the bees from returning to the hives, and heavy losses were noted in the colonies.

Superseding of package queens was common, and cases were reported where 40% of the queens were superseded. Many of the queens which did not supersede were poor, and the colonies failed to build up beyond 50% of their normal strength. Whether this was due to poor queens, the abnormal heat at the time of shipping (the temperature is said to have ranged from 101° to 150° in the shade at some California shipping points), or to the cold and extremely windy season, is hard to determine. The fact remains, however, that beekeepers are turning more and more toward wintering.

The first definite attempt to cut the cost of shipping was made by R. C. Shurtz, Lethbridge, who had 400 packages brought in by truck. These packages developed into very fair colonies, and proved on the whole to be better than the colonies shipped in by express from the same apiaries. This year 500 queens were shipped to California from the apiary of R. C. Shurtz. This is the first time that bees have ever been shipped from Alberta to California.

Mr. Geo. C. Riedell shipped 1,200 nuclei to Hang Chow, China, where he intends to establish commercial apiaries. Beekeepers in Alberta will view this experiment with interest, as it may prove a profitable fall market for bees. It would do away with the killing of bees in the fall.

The total production of honey for 1931 has been estimated at 915,000 lbs. from 5,500 colonies, and the value at 10 cents per lb., giving a total of \$91,500.

There is a noticeable increase in the interest in beekeeping in the Province, and next year should see a very considerable increase in the number of farmer beekeepers.

A survey of the Peace River district revealed some 35 beekeepers who were actively engaged in producing honey. The average yield in the farm apiaries runs a little better than 100 lbs. per colony. There is a tremendous wealth of fireweed, but this has proved a rather uncertain source of nectar. With the increase of sweet clover in the Peace River country, this may become a notable honey-producing area.

The outbreak of American Foul Brood mentioned last year is now rapidly coming under control. Apiaries in which 20 colonies

were destroyed last year were found in many cases to be free from disease this year.

A correspondence course in beekeeping was prepared, consisting of six lessons, and distributed to over 75 beekeepers in the Province. Answers to the various question sheets were received and checked by the Provincial Apiarist, and in this way many mistakes in method, etc., of amateur beekeepers were checked and profitable advice given out.

Three radio talks were given over the University station, CKUA, last spring, and field days were held at Vermilion, Irma, Carceland, Magnolia, and Lethbridge, the last three of which were held in co-operation with the Beekeepers' Association in the district. Three meetings were held and talks given by the Provincial Apiarist at Calgary, one at Okotoks, and one at Lacombe. The latter was held at the Dominion Experimental Farm, and much of the success of this meeting is due to the co-operation of Mr. F. H. Reed, Superintendent of that station.

The following are reports received from the small apiaries established last year at Olds and Vermilion:

Mr. C. E. Yauch reports that at Olds four 3-pound packages of bees were received and placed in the hives on May 5th. Hives A, B and C were placed on scales and daily weights taken throughout the season. These were supplied with drawn comb, while hive D was supplied with foundation only. Hive C was placed under a test for comb honey production from July 28th to September 4th, and a total of 35 filled sections averaging 12.2 ozs. each were produced by this hive. The quality of the comb honey was excellent.

The total production of extracted honey per colony was as follows: A, 139 lbs. 7 ozs.; B and C, 142 lbs. 2 ozs.; D, 147 lbs. 10 ozs.; total, 429 lbs. 3 ozs.

It was decided to try wintering over three of the hives, A, C and D, these being packed as follows: Hive A was placed in a cellar for the winter; the weight of this complete hive on October 5th was 68 lbs. Hive C, weighing 75 lbs., was placed in a tar-paper wrap the first part of October and packed with cut straw. Hive D was placed in a Kootenay case, also packed with cut straw; the weight of this hive was not taken. Hive B was not wintered.

At Vermilion the five colonies which had been packed for winter were opened by D. A. Andrew on May 9th, and all were found to have come through in good condition, all the colonies having a surplus of stores. One colony was found to have a virgin queen. One of these wintered colonies was put on the scale on May 9th and weighed daily during the season. It did not at any time require feeding. From this daily record it was noted that steady production began May 26th and left off September 13th, giving a total gain from nectar sources of 388 pounds. The honey season in this district was much longer in 1931 than in 1930.

Early in May, five 2-lb. packages of bees were placed in the yard. These made only fair gains, and considerable trouble was experienced with swarming amongst these, whereas little or no trouble with swarming was found in the wintered colonies. Several

of the package colonies were requeened with queens raised in our old hives.

As profitable producers, our wintered colonies far outyielded our packages. The four wintered colonies that had the good queens made an average surplus of 202 lbs., while the package colonies made an average surplus of only 41.6 lbs.

Of the 1,058 lbs. of honey extracted, 818 lbs. has been sold at 10c per lb., 240 lbs. still remaining in the stockroom of the dormitory.

Last fall we made up three oversize Krouse wintering cases and one twin case to pack the extra bees in. All ten colonies are now packed for outside wintering, and have supplies ranging from 75 to 100 lbs. per colony.

A further trial of the spring inspection of combs was made during May and the last part of April. It was hoped that this would bring home to the beekeeper the folly of splitting his brood-nests, the wisdom of a check by the beekeeper of his own combs, both in the spring and fall, particularly in the fall, and also aid the Branch in making a check of the equipment of apiaries believed free of disease. Such apiaries would need no further examination during the season, thus saving time and mileage, since no out apiaries are visited.

A total of 1,457 brood chambers and supers containing combs that had been used for brood rearing were examined in which American Foul Brood was known or suspected of being present. Forty-one hive bodies were found with combs containing American Foul Brood scales. Hive bodies which might contain infected combs from these supers were segregated. Disease appeared during the season, but the percentage in such combs could not be determined. The practice of pouring sugar syrup into the combs in the spring for the bees, catching the surplus in a tube or other vessel and pouring it over other combs, introduced a factor which might be a greater cause of the spread of disease than the split brood nest.

Over 1,650 colonies were examined in 100 apiaries during the inspection season by the Provincial Apiarist. Mr. Duncan Chalmers reports 1,895 colonies inspected and 148 destroyed on account of disease. In June an inspection of the apiaries in the Calgary district was made and no disease found. Inspection made in August of apiaries in the Bon Accord district showed sac brood as epidemic in several, particularly among the black bees. Inspection of the Lacombe district in August, in which 185 colonies were inspected, showed only one case of American Foul Brood. All diseased combs were destroyed in the presence of the inspector.

Report of the Women's Bureau

(MISS MARION STOREY)

During the year 1931 the Alberta Women's Bureau conducted a number of educational short courses for the benefit of the women and girls of the Province. Due, however, to economic conditions, a considerable amount of the work had to be curtailed, but the courses that were put on were very much appreciated, and one significant fact is that the average daily attendance has increased 50% over that of last year.

Demonstrations and lectures were given to the Women's Institutes, the United Farm Women of Alberta, and to a few other community organizations. The following subjects were demonstrated: sewing, foods and cookery, basketry and interior decoration.

The arrangements made for carrying on this work are as follows: The Department of Agriculture provides the lecturer or demonstrator and pays her travelling expenses and sustenance allowance. The local organization undertakes to advertise the lecture, demonstration-lecture or short course. They provide the place of meeting and some of the equipment, where equipment is required.

The Alberta Women's Bureau work was carried on throughout the year, the greater part being done during the summer months:

Number of sewing courses given	45
Total attendance	3,752
Average daily attendance	22
Number of basketry courses	23
Total attendance	1,364
Average daily attendance	18
Foods and cookery	35
Total attendance	1,270
Average daily attendance	23
Interior decoration	8
Total attendance	513
Average daily attendance	21
Demonstration leather work	1
Total attendance	48
Average daily attendance	16
Summary:	
Number of places visited	112
Total attendance, all short courses	6,941

During July and August a second course for farm women was conducted at the Olds and Vermilion Schools of Agriculture. These were similar in nature to those conducted during 1930. A total attendance of 70 women and 6 children under five years of age were in attendance at these courses. From reports received at this office both courses were very much appreciated by women, and a general hope has been expressed that they will become an established part of the summer's programme.

This district worker has carried on her work along the lines followed during the past few years. This year she conducted 433 meetings, these being on various subjects pertaining to women's

activities in the home and community. In one portion of her district she has specially stressed the revision of handicrafts, and has been successful in arranging for the sale of over \$700 worth of these articles. This consisted chiefly of articles which are made from wool, produced, spun, dyed and woven at home.

Report of the Publicity and Statistics Branch

(C. G. GROFF, *Publicity Commissioner*)

The continued necessity for restriction of expenditures and the inadvisability of conducting any extensive publicity campaign towards the objective of inducing settlers to come to the Province, limited the activities of this Branch in that direction during 1931. Numerous inquiries were dealt with, however, and considerable information concerning the Province given out on request to the public abroad.

The Province, with its wealth of scenic beauty, continues to attract large numbers of tourists annually, and the Branch has done whatever possible in promoting this traffic. There has been a wide distribution of the tourist pamphlet published in 1930, as well as maps of various kinds.

A great deal of attention has been drawn to the Province through the large number of prizes won by Alberta grain and livestock exhibitors at Toronto Royal Winter Fair and Chicago International Grain and Livestock Show. A new record in prize winnings was created by Alberta exhibitors at Toronto Winter Fair in 1931, when a total of 295 prizes of all kinds was taken, including 25 championships, 79 firsts and 7 special prizes. At Chicago a total of 43 prizes in seed grains was taken by exhibitors from Alberta, the Province winning for the fifth time the trophy of the Chicago Board of Trade emblematic of international wheat championship. This trophy is now in permanent possession of Mr. Herman Trelle, of Wembley, by virtue of his having won it for the third time. The Alberta winners during the 11 years in which this trophy has been in competition were: Mr. H. C. L. Strange in 1923, Mr. Herman Trelle in 1926, Mr. Joseph H. B. Smith in 1929, Mr. Herman Trelle in 1930 and 1931.

During the Royal Fair at Toronto in November arrangements were made for special reports on the Alberta prize winnings for Alberta newspapers, with the result that the exhibitors from this Province received a great deal of press publicity, which gave them added encouragement in their work.

The usual work of collecting general statistics on the Province and its development was carried on as in former years, and the usual production statements issued. Considerable use has been made by the outside public of the information available in the statistics files, and this has proved a valuable service. There has been a constant demand for the statistics publication issued by this Branch in 1930, and it would be advisable as soon as possible to issue a supplement to this publication, in order that the most important of the material might be brought up to date.

The Branch continued to administer The Threshers' License Act, and under this Act a total of 7,100 threshers' licenses were issued.

The returns made in the fall by threshers forms a valuable basis for certain crop statistics.

The Branch has co-operated closely with the Dominion Bureau of Statistics in the compilation of crop statistics, as in former years.

Very little exhibit work was undertaken during the year, but the usual work of gathering and curing grains and grasses for exhibit supplies was carried through by Mr. Frank Peterson, who has been engaged in this service for the Government for some 25 years. The policy of carrying displays at various fairs at home and abroad has been discontinued for the time being.

Practically no new motion picture work was done during the year owing to the necessity for curtailing expenditures. In this connection the retirement from the civil service of Mr. A. W. Foley, who had been in charge of this work for some years, is mentioned. Mr. Foley was in the service of the Government for 26 years, first as poultry commissioner, and later as special lecturer in poultry, and as motion picture director, in all of which capacities he rendered valuable service.

After being vacant since the retirement of Mr. D. A. McCannell in 1929, the post of publicity commissioner was filled during the fall of 1931 by the re-appointment of Mr. C. G. Groff, who held the position from January, 1922, to April, 1927, leaving the service at that time to enter the service of the Canadian National Railways. The office of the Publicity Commissioner, which, since its inception in 1910, has been a branch of the Department of Agriculture, is to be transferred to the jurisdiction of the Executive Council.

Reports of the District Agriculturists

REPORT OF THE DISTRICT AGRICULTURIST, LETHBRIDGE.

(M. L. FENG)

Activities from this office have been along lines similar to previous years.

In the wheat growing sections there has naturally been some changes taking place in operations. Considering the low prices on farm produce, adjustments have had to be made effecting economy. Cultural methods are changing somewhat, considering local conditions. We have made a careful study in this respect, and cultural methods adapted to these various districts are generally practiced. A few years ago soil drifting was very serious in the Lethbridge area. Various methods were tried out, most of them with very little effect. In the last eight or nine years strip farming has become very popular throughout this district. There is now an area about 25 miles long and 20 miles wide where nearly every farmer is operating under this system. These strips are generally about 20 rods wide and running north and south. It has been very effective, and where this method has been carried out properly there is practically no soil drifting.

Some of the wheat growing areas in the extreme dry sections are not adapted to mixed farming owing to difficulties in growing hay crops and shortage of stock water in many cases. However, there are more farmers keeping sufficient cows and hogs to supply the home, and the growing of forage crops suited to these districts is also given considerable attention.

Farmers throughout the irrigated districts have made considerable progress in the raising of various classes of livestock. Rotations supplying sufficient alfalfa, coupled with good mixed pastures, and sugar beets, more coarse grain and the raising and feeding of livestock generally must be adapted on the average irrigated farm. In this regard there has been a substantial increase in good dairy cattle, farm flock of sheep and hogs, and also the feeding of lambs and cattle throughout this section, but owing to the extreme low prices on all farm produce the 1931 returns of the average farmer will not much more than pay operating expenses.

This office has assisted in securing quite a number of good sires in cattle, sheep and hogs for this district. The quality of hogs and lambs shipped out of this district during the last few years has been greatly improved.

We have also continued to meet the farmer's requests in helping him to meet his irrigation problems. A great deal of attention has been given to increasing efficiency of water as supplied to hoed crops, such as sugar beets and potatoes, in order to obtain maximum

yields. Increasing efforts are being made by the individual farmer to meet the problems confronting him and solve them in an economical manner. Especially is this noticeable in the newer irrigation districts.

Several requests have been received from farmers having land adjacent to natural water-courses for the development of pumping plants to irrigate limited areas to provide a food supply for livestock. Some assistance has been given in this connection where a scheme of this kind seems feasible.

The irrigation districts are well suited for the growing of canning crops. For some years there have been several plots throughout the districts on trial to demonstrate to canning factories that various crops can be grown satisfactorily, both as to quantity and quality, but development along this line, of course, cannot be encouraged unless industries can be induced to locate here.

The year 1931 was one of the most successful seasons for the sugar beet industry. The growing and harvesting conditions were very favorable. There were only light frosts during the harvesting time, and dry roads for hauling. The Raymond sugar factory was supplied with sugar beets to its full capacity, and it is hoped that this industry will expand, as the farmers are ready to grow sufficient acreage to supply another factory in the Lethbridge district. There were about 630 farmers growing sugar beets during 1931, who grew approximately 12,600 acres, producing an estimated tonnage of 105,000 tons. The sugar contents of the beets were the highest on record, an average of 18.25. The factory operated about 98 days. Without some industry like the sugar factories, canning factories and creameries, the irrigation farmer cannot very well take full advantage of the crops and farm produce that can be so successfully produced under irrigation conditions.

The 15-ton Sugar Beet Club, organized in 1927 and sponsored by the Lethbridge Herald, Canadian Sugar Factories, Ltd., Alberta Beet Growers' Association and the Department of Agriculture, held one of its most successful club years since its commencement. The purpose and aim of this competition is to serve as an impetus of better culture of beets with the end in view of higher tonnage and better sugar content. Excursions, demonstrations, banquets and prizes are given to stimulate the interest. The judging of the standing crop is made to ascertain the type and condition of fields, so that a proper check on factors effecting the tonnage is observed.

There were 52 entries and 48 plots judged. Sixteen of these members grew over 15 tons per acre on a five-acre plot.

The basis of judging was as follows: Standing field crop, score, 20 points; crop history and field records, score, 10 points; tonnage produced, score, 70 points, making a total of 100 points.

The highest 10 growers were as follows:

	Points.	Tons per acre.
N. J. Anderson, Barnwell	109.22	21.797
N. P. Tracey, Lethbridge	95.07	19.360
J. B. Ririe, Magrath	88.43	17.641
Rogers Ranch, Lethbridge	87.98	17.227
Phillip Baker, Raymond	86.97	17.317
G. W. Snider, Lethbridge	85.49	17.031
Bert Nilsson, Raymond	85.09	16.607
H. J. Harris, Taber	84.49	16.970
J. H. Fox, Picture Butte	84.10	16.727
Wm. Alexander, Picture Butte	83.94	16.759

In regard to prizes:—First prize in the 15-ton, 5-acre contest: Lethbridge Herald Challenge Shield, together with cash prize, given for highest tonnage for 5 acres. Second prize: Provincial Department of Agriculture Challenge Trophy, given for greatest tonnage delivered to the factory by the member qualifying on 5 acres.

Substantial prizes were given to the balance of the 10 highest in the 5-acre contest.

We consider that these competitions have done a great deal to encourage better cultural methods, better fertilization of the land, and have gradually increased the average tonnage of sugar beets raised in this district.

A movement was also started last year to improve the potato-growing situation in the irrigated districts by encouraging a number of farmers to grow a seed plot of half an acre of certified Russett Burbank potatoes, with a view of getting a quantity of good seed in the district for the following year so as to improve the quality of the potatoes produced, and also to standardize production to a few improved varieties together with assistance in grading and marketing, and eventually place this district in a position to supply uniformly high-grade potatoes to markets that may be available.

This office has again, as in former years, co-operated with the Alberta Poultry Pool in organizing this district for the Christmas marketing of turkeys and other classes of poultry. All necessary arrangements were made for collection of turkeys between Vauxhall and Milo and surrounding points. Loading poultry from all points having direct rail and road connections with Lethbridge or concentrating here, two full cars being loaded and shipped to outside markets.

The Baby Beef Calf Club held its eighth annual calf-feeding competition at the past summer exhibition with an entry of 24 calves. Of these, 20 were presented during the fair, and judged by Professor Sackville, of the University of Alberta. First prize went to Jacob Klassen, of Coaldale, with an exceptionally fine calf weighing 1,040 lbs. Second and third prizes were taken by Wm. Morden, of Lethbridge, and James Nicol, of Kipp. Immediately after the judging, the calves were sold by auction, and a very satisfactory sale was recorded. The first prize calf was sold to the T. Eaton Co. at 25c per lb. Total proceeds of the sale for 20 calves was \$1,980, an average of 11.56c per lb. live weight. A special prize was offered for the calf making the best percentage dressed weight, and was won by Wr. Swingler, of Lethbridge, with a dressing percentage of 62.42. The quality of these calves again showed considerable improvement, being remarkably uniform throughout, and the judging and sale attracted the keen interest of the visitors at the fair. This calf club feeding competition has created an interest in this district in feeding and finishing of cattle, and has had considerable to do with the progress in this connection at Lethbridge.

The Dairy Calf Club held its fifth annual competition. There were 60 animals, comprising junior calves, yearlings and 2-year-old heifers. The older animals were shown as calves in former years, and are cared for by the club members until they have passed their

first lactation period. Some of these heifers produced up to 11,000 lbs. of milk and over 400 lbs. of butter during their first lactation period. They also won first place in the open classes of the two-day milking competition.

Elizabeth Dalglish, of Iron Springs, won first prize with her typey well-developed junior Holstein calf, and A. G. Johnson, of Picture Butte, won first place in the Ayrshire class. Both these animals also won first place in the open class. The boys and girls demonstrated their skill in showmanship and also their knowledge of good livestock in the judging competition.

The operation of the dairy club is undoubtedly creating a greater appreciation of the dairy industry in the development of high-class dairy cattle in the district generally.

Assistance was also given in connection with the junior standing crop competition as well as the senior field crop competition.

During the month of February the annual irrigation short course was again held at the Experimental Farm. In this connection the Department of Agriculture, co-operating with the Dominion Experimental Station, sponsored a well-balanced programme. There was a very good attendance throughout, and it was generally the sentiment of all those who attended that this course should be an annual event.

I judged at several of the summer fairs, and we have had several farm meetings throughout the year.

REPORT OF DISTRICT AGRICULTURIST, HANNA.

(E. G. WOOD)

The crop season of 1931 was the most discouraging of any year in the history of the Hanna district. The winter of 1930-31 was exceptionally mild with light snowfall, with the result that the soil was exceptionally dry at seeding time, and germination was delayed and very uneven. The dry condition of the soil also aggravated soil-drifting, and large areas were so badly blown that reseeding was found necessary. A few showers in the early part of the growing season brought about fair growth, but the hot, dry winds in July burnt the crops badly and they ripened up prematurely. Yields were reduced, and throughout a large part of the district the farmers were unable to thresh one bushel, either for seed or feed. In some cases part of the crop was harvested green and utilized for feed. In areas where there was a fair prospect of a crop the hail did a large amount of damage.

Pastures were very poor owing to lack of moisture during the past three years, and it required large areas of range to support a few head of stock. Stockmen also experienced difficulty in locating sufficient water, as many wells and springs had gone dry. Under these conditions, it was only natural to expect that most of the cattle on range would be in poor condition. The stockmen were also facing a feed shortage and had to liquidate in the fall, but prices were very discouraging and returns were extremely small, especially for the unfinished cattle. Something over 2,000 head of

cattle were shipped to market, and 75% of this number could only be classed as feeders.

During the spring of 1931 there was a demand for registered seed. Special prices were obtained from the Field Crops Branch, and over 2,000 bushels of registered Victory oats and 1,000 bushels of Marquis wheat were distributed in the district. The majority of the seed wheat was distributed to competitors in the Hanna, Craig-myle, Coreen, Youngstown and Wastina seed clubs. The oats were purchased by farmers in the Hanna district. Quantities of other seeds, such as sweet clover, brome, western rye, were also handled through this office.

As secretary of the Eastern Alberta Wool Growers' Association, over 130,000 lbs. of wool, constituting six car-loads, were collected in the district and shipped to Weston, Ont. This shipment was made up by over 90 contributors. Initial and final payments were made from this office, as well as sending out statements to each contributor. A large quantity of supplies was also distributed to the various sheepmen in the area.

Assistance to sheepmen was rendered in the way of obtaining outside buyers for breeding stock and feeder lambs. A Suffolk Ram Club was organized at Hanna, and 18 Suffolk rams were placed in small flocks. The introduction of the rams should do much in the way of improving the quality of lambs produced and increase the quality of breeding ewes.

The Boys and Girls' Sheep Clubs were given assistance during the year in the way of obtaining breeding stock and the exchanging of rams.

Owing to the continued dry weather which has prevailed over a large part of the district extending south and east of Hanna, and resulting in crop failures during the past few years, many farmers became desirous of moving to other parts of the Province where conditions were more favorable for farming. Petitions were submitted to the Government to allow free transportation, and on July 1st the free freight policy came into effect and terminated on November 15th. During the period this policy was in effect 265 families were moved from the district. Application for free transportation was approved through this office. This, along with other work in connection with the movement of settlers, took up a large part of the time. Assistance was rendered in the way of giving out general information pertaining to the policy and the securing of homestead lands, etc.

It was quite evident in the latter part of the growing season that feed for stock during the winter was going to be a problem, and particularly so should there be a heavy snowfall and long winter. Owing to short grass on the range, it was apparent that horses would have to be fed as well as the cattle in order to keep them alive. A special effort was made to have as many farmers as possible secure feed locally and thus save expense of freight hauling. Assistance was given in the way of locating available feed through a survey made of the district. Many farmers took advantage of the assistance offered, and purchased their feed requirements in the early fall.

It was found later in the season that many farmers having cattle which were unsaleable and not enough feed to keep their work horses over the winter, were unable to purchase their requirements, and it was necessary for the Government to grant feed loans to these farmers as a relief measure. Feed loans have been very much in demand, and up to the present time 233 applications have been filed at this office, representing a total loan of \$17,150. These loans are approved, and feed purchased locally or shipped in from outside districts.

REPORT OF DISTRICT AGRICULTURIST, SEDGEWICK.

(H. W. SCOTT)

This district now has a short background of experience, and there is a decided move towards adaptation to the conditions which appear to be peculiar to the district. Local experience, together with the soil and crop map prepared by members of the staff at the University of Alberta and officials of the Department of Agriculture, is being taken as a guide. Wheat, in all probability, will be the main crop for some considerable time, but there is a strong desire to build up some side line, or lines, which will distribute labor and make the farming venture more secure. The amount of breeding stock that may be kept on the farm is limited to the numbers that can be fed during the occasional dry year when moisture is decidedly limited. To go extensively into any kind of livestock which requires the purchase of bulky feed during these dry periods is fatal, as shown by the experiences of 1919-20 and again in 1929-30.

In the area extending from Daysland east to the boundary of the Province rather extensive experiments were begun this year in the search for a suitable fodder crop through the 80 members of the Junior Farmers' Alfalfa clubs and others. In all, something over 1½ tons of registered Grimm alfalfa seed was sown in small lots and distributed from Sedgewick. The year has been unusually favorable to get a satisfactory catch, and the stands so far are gratifying. The hope is that if a good stand of alfalfa can be secured in the favorable years, the plants will be there to supply at least some first-class feed to go with the old straw stacks in the years when moisture is not so plentiful. Sweet clover will continue to find a large place in the regular rotations to supply feed and pasture, and to open up and enrich the soil and subsoil, but getting a catch of this crop in this way in the years when it is most needed has so far been unsatisfactory. Grass and clover mixtures are also being tried out both for hay and pasture on a good many farms. When satisfactory fodder and pasture is assured livestock will have a larger and more permanent place than at present.

Farmers with some experience in livestock management are slowly increasing their breeding stock. Shorthorn bulls are popular, and during the past year this office has had more or less to do with getting in over 40 sires of this breed in clubs under the Dominion Government Bull Policy, the Provincial Government Sire Purchase Policy and by private purchase. As herds are not large, these bulls

are also being used by neighboring farmers. Our Boys and Girls' Sheep clubs have 15 Hampshire rams in service, and 25 farmers have availed themselves of the Dominion Ram Policy and have purchased 16 Hampshire and 9 Suffolk rams, all XXX. A few additional good rams have been secured through private purchase. In spite of the low price for wool and lambs, small farm flocks are on the increase. We have 24 Yorkshire boars in our Boys and Girls' Swine clubs, and more than that number have otherwise been brought into the district this year. There was a decided increase in the number of baby beef fed by boys and girls last winter, and the number and quality of these calves exhibited at both Calgary and Edmonton spring shows speaks well for the ability of these young feeders. A still larger number should appear at these shows next spring if present plans materialize. There are some requests for boys and girls' clubs of breeding heifers, but so far the aim has been to hold club activities to the feeding of market animals as the returns are quicker, the outlay less, and there is always the uncertainty of just what these young people will be doing by the time they have built up a breeding herd. A local Sheep Breeders' Association was organized here, affiliated with the Provincial organization, and a car of wool was shipped direct to the Canadian Co-operative Wool Growers at Toronto.

The Accredited Flocks method of improving farm flocks of poultry has worked out fairly well. The original members in the group have continued in the work, and there have been a few new members added. The eggs from the selected breeding pens, which were blood tested for Pullorum disease, were shipped to the Bolivar Hatcheries at Calgary. Baby chicks were brought back to meet the local needs, and the hatchery sold chicks, so that there was a steady market for these good hatching eggs during the breeding season. The members of the association have been candling, grading and stamping their eggs, and then shipping collectively to retailers. The extra work done on the farms, together with general high quality of the eggs marketed, has brought an enhanced price to the producers. The 16,000-egg incubator owned by the Killam Co-operative was run to capacity for custom hatchery throughout the season. There is a growing interest in turkey breeding, and some outstanding exhibition flocks have developed, particularly in the Czar area. Killam Co-operative again this year arranged a kill of poultry, and the Sedgewick Co-operative Creamery also had a small poultry kill. A turkey kill was also conducted at Killam and Sedgewick. There was a noticeable increase in the number of farmers who killed, dressed, graded and packed their market chickens and turkeys and shipped them direct to the retail trade, thus bringing back to the farm a larger part of the consumer's dollar. There is still too large a percentage of inferior birds being offered for sale.

During the winter two short courses were held, one at Provost and one at Loughheed. These courses were well attended, and aroused new interest in a more balanced system of farming. In the spring a Crop Improvement Association was organized with 19 members, each member purchasing sufficient registered Marquis wheat to seed ten acres. These farmers later entered their fields

in the combined field crop and clean seed competition conducted by the agricultural society. A good many farms in the district appear to be particularly suited to the growing of certified seed potatoes, as they seem to have a minimum amount of scab and potato disease. Fifteen farmers secured sufficient certified seed to plant at least half-an-acre. The fields were inspected throughout the season by the Dominion Government potato inspector, the harvested crop was later inspected and passed or rejected, and a good deal of valuable information was obtained on this interesting field of endeavor. The members of the potato group also entered the Provincial Certified Seed Competition through the Sedgewick Agricultural Society. A general agricultural field day was held during the summer on the farm of Mr. Chas. Ball, of Sedgewick. In the forenoon a tour of inspection was made of the fields of registered grain and certified seed potatoes, and the afternoon was spent in discussing general farm problems. Representatives of the Canadian Seed Growers' Association, members of the staff of the University of Alberta and Provincial Department of Agriculture gave addresses and led in discussion. Fully 500 people were present, and the field day gave an opportunity for extension workers to meet a large number of people with a minimum of expense.

The regular work of the school fairs, calf, swine, lamb, wheat and alfalfa clubs was carried on throughout the season. Instruction was given to members of these clubs, judging classes were conducted and local competitions were held, and where the project called for it, teams were prepared for Provincial competition. Teams were prepared for the contests in connection with the Provincial Dairy Convention, and for the third time in five years a team from this area won the cup in the demonstration contest. The district agriculturists judged at school fairs, agricultural fairs, seed fairs, junior wheat and alfalfa field and grain shows. Short course work and meetings of various kinds received attention as time permitted. There has been marked increase in the number of requests to discuss individual problems, on the farm of the operator and in the office. The decided reduction in the number of telephones in the farm homes has added to the amount of driving necessary to carry on a continuous programme in different projects. The whole-hearted co-operation of leaders in the different communities has made the volume of work possible and pleasant.

REPORT OF DISTRICT AGRICULTURIST, VEGREVILLE. (F. H. NEWCOMBE)

The lower trend of grain prices has been a decided stimulus to livestock production. Accordingly there has been a brisk demand for pure-bred sires of all classes of stock. Following the announcement by the Dominion Government of the resumption of its sire loaning policy, a large number of associations were organized throughout this territory, and applications were forwarded to Ottawa. Owing to the scarcity of suitable animals, no bulls were placed here under this policy. There was, however, keen interest in the Sire Purchase Policy of the Provincial Government, and 15

farmers took advantage of it to secure good sires. While active in the prosecution of the Sire Purchase Policy, we have also been instrumental in locating 12 bulls for private purchase. The most popular breed in this district at present is the Shorthorn, especially those with the milking tendency.

The pure-bred sire area is moving steadily, if slowly, forward, and during the season some signatures have been added to the petitions. We prefer to allow this matter to have a gradual development.

Hog production, always an important department in this district, was increased considerably during the past season. Large numbers of brood sows were retained which ordinarily would have gone to market, and although the mortality in young pigs was fairly heavy, still there was a substantial increase in the numbers marketed. This office was active in locating breeding stock of both sexes, but the general policy was to advise against too rapid increase, a policy which seems to have been justified by market conditions. Twenty-five Dominion Government boars of the Yorkshire breed are now on loan to the Vegreville, Tofield and Holden swine clubs. During the year there has been an evident desire on the part of the farmers to improve the quality of their hogs.

Some cattle feeding was carried on last winter, and in common with other districts no large profits were recorded. Partly for this reason and partly because of shortage of capital, less cattle will be fed this winter. Considerable educational work should be done along this line, and we are endeavoring to point out the most approved methods. An effort was made to start some feeding calves on margin, but owing to the difficulty of securing calves this was not successful.

A little interest develops in sheep from time to time. This fall we were able to place 150 breeding ewes, which were secured in the Hanna district. A Suffolk Ram Club was organized at Ryley under the Dominion policy, and 26 rams were distributed to 15 breeders. This is particularly valuable in that district, as these breeders had not been using pure-bred rams for the most part.

Horse-breeding remains at a standstill, though two stallions of fair quality were brought into the district during the season.

Economic conditions appear to be teaching the lesson of balanced farming, and if grain prices continue at their present level interest in all kinds of livestock will continue to be keen.

Considerable supervision has been given to the portable grain cleaner being operated in this district by the Department and the Vegreville Exhibition Association. The machine was well patronized by farmers in the district. In addition, a large percentage of the relief seed shipped from here was cleaned by the machine. In order to secure the best results it has been necessary to follow the work quite closely. A total of 55,000 bushels went over the cleaner at an average cost to the farmer of 1.75c per bushel. The charges were 1c per bushel for oats and 2c per bushel for wheat and barley, except for the relief seed, on which the charges were raised 1 cent per bushel. Reducing the charges to a per hour basis, it would have required \$1.25 per hour to provide the same revenue. The average bushels per hour was 75 and the average operating cost

per hour was 72 cents. This machine is performing a valuable service in the district, and is an important factor in weed control. It also has an educational value in setting a standard for cleaned seed.

Fifty grass and clover plots belonging to Alumni members were inspected and scored for the Field Crops Branch. They included Western rye, brome grass, red top, alsike and red clovers, and alfalfa. Some excellent crops were seen, and it was particularly gratifying to note the success which attended the growing of the clovers.

Interest continues keen in the various clubs among the girls and boys. Two boys from Innisfree were trained for the dairy competition at Calgary. As a team, they stood second in judging and fourth in demonstration, one of the boys being the highest individual in judging.

Alfalfa clubs were organized at Viking and Mundare, with 10 members in each club. As much supervision as possible was given to these clubs, and all the members had good stands of alfalfa, though weeds were prevalent in some plots. Those seeded on summerfallow without a nurse crop were much better than those on stubble land, and the plots seeded in rows were good where they had been kept free from weeds.

One wheat club with 19 members was organized at Mundare. Some exceptionally fine crops of Marquis wheat were produced, and this club won the silver trophy of the Department. A junior seed grain fair was held, but it was poorly patronized, as it occurred in the threshing season.

Swine clubs were operated at Vegreville, Tofield and Holden, the two latter being newly organized. Interest was good in these clubs, and local competitions were held at each point. In the car-lot competition Vegreville stood first, and the combined load of Tofield and Holden was seventh. Owing to the difficulty of securing the older boys during the threshing season, only one team representing the Tofield Club was trained for the central competition. They stood in third place in that competition. All of the pigs were sold at \$4.50 per cwt., basis bacons f.o.b. shipping point. The feeder pigs cost the members \$3.50 to \$4.50 each and the pure-bred sows \$9.00 each.

The only school fairs supervised by this office were those at Vegreville and Ryley, the latter being newly reorganized. Good fairs were held at these points, and the one at Vegreville was the largest in its history, with 3,358 entries. The prize list here amounted to \$750, and left the management with a deficit of \$150.

Interest in poultry production is reviving in spite of the very low price received for the product during the year. Volume of production, however, was not quite so large as it used to be three years ago. Owing to financial difficulties and economic conditions, Alberta Hatcheries did not operate this year. This office has given some service in the mating of flocks, securing male birds, and distribution of information. Twelve flocks, comprising 1,500 birds, were culled at Lavoy.

Short courses in agriculture of two days each were held at Holden and Innisfree. The former was decidedly successful, with an average attendance of 85. The latter was not so well attended. The subjects discussed included hogs, beef cattle, forage crops and weeds. Some time was also devoted to short course work in other parts of the Province, as well as judging at seed grain fairs. We also judged hogs at Camrose, Lacombe and Vermilion summer fairs, horses at Rimbey, and the junior field crops in the Islay and Vermilion districts.

More time has been spent during the past season than ever before in personal work with farmers. There have been more requests for this attention to individual problems than usual, probably an evidence of the need which farmers feel of assistance to balance their methods and reduce production costs to a minimum. We are pleased to note this continued confidence of farmers in this office.

REPORT OF THE DISTRICT AGRICULTURIST, GRANDE PRAIRIE.

(W. J. THOMSON)

The Peace River country harvested an average crop during 1931. There was little snow during the winter, and this was followed by a summer of light rainfall and little reserve moisture. The light snowfall resulted in many small lakes, sloughs and streams almost drying up, causing difficulty in securing water for livestock in some districts.

There was some soil-drifting during the spring in small areas due to lack of snow and little rainfall early in the spring. Wireworms did considerable damage to wheat crops and left many fields with the stand so thin that the weeds got ahead of the grain. Professor E. H. Strickland, of the University of Alberta, spent considerable time in the district studying methods of control.

It was a season where good farming methods proved a profit to the careful farmer, and where carefully prepared summerfallows showed a substantial yield over the more careless methods of cultivation. Hay crops have been light, and pasture crops only returned a fair amount of feed, proving a need for more consideration of forage crops and their place in rotation.

This is a district a considerable distance from markets, but one where there is an abundance of cheap grains and roughages. Low grain prices have brought a realization that more of this grain should be shipped to market in the more concentrated form of beef, pork and dairy products. There has been an increased interest in livestock of all kinds, especially hogs of the bacon type, dual purpose cattle and sheep. The demand is for livestock that will help the farm pay its way, and in as far as possible should grow first the crops and livestock products that will be a small cash crop to meet the needs of the grocery bill. More colts are being raised, and the demand is for cheap horse-power that will cut the cost of producing the major cash crops. There were 4,542 more hogs and 1,941 more cattle marketed this year than during the previous year.

The demand for more hogs of bacon type was met by the importation of 75 pure-bred gilts and 75 boars of Yorkshire breeding. These were brought in with the co-operation of the Dominion Live Stock Branch.

Two swine clubs were organized during the spring; one at Sexsmith and one at Grande Prairie. These clubs were sponsored by the Grande Prairie and Sexsmith Boards of Trade.

Two boys from Grande Prairie were sent to Edmonton to the Provincial Swine Judging Competition. These boys were successful in winning the semi-finals in this competition. The pure-bred gilts for these clubs were imported from the Edmonton and Red Deer districts.

Six boars were loaned to these clubs by the Dominion Live Stock Branch, and with the total of new blood in the district there should be a noticeable improvement in the type of hogs going to market from here another year.

There was considerable enquiry for bulls of dual purpose type, and 35 bulls were distributed through the loan policy of the Dominion Live Stock Branch and the Provincial Bull Purchase Policy.

There have been several new flocks of sheep started during the year. Sheep are proving adaptable to conditions here, and are proving an asset in pasturing rough and brush land.

Ram clubs were organized at Fairview and Grande Prairie with the assistance of the Dominion Live Stock Branch, and 35 rams distributed under this policy.

Horses have been used almost to the exclusion of tractors for field work, and more colts have been raised than for some years. There is an enquiry for club stallions at the present time. Several droves of range horses from Southern Alberta have been driven in and sold to farmers and new settlers. Throughout the year there has been a noticeable tendency for the farmer to increase the farm livestock. Most farmers are keeping a few cows, two or more sows, better poultry, and in some cases a few sheep and enough horses to do the farm work.

The district harvested a fair crop of higher than average quality. Harvesting and threshing costs were the lowest for many years. There has been considerable registered grain grown. There has been an increased interest in forage and pasture crops following the demand for more livestock, and a realization that pasture crops must have a place in the crop rotation to prevent soil drifting.

Thirty cars of registered grain were shipped for seed relief and some sold direct to seed houses. The district is also gaining a reputation for grass seeds, and considerable timothy, rye and brome seed was shipped. There promises to be a bigger acreage seeded to these crops during the coming spring, especially with the assistance offered the grower to secure seed through the Field Crops Branch.

The district again has the distinction of having produced the world's championship wheat, also winning many of the major awards at Toronto Royal and Chicago International. Championships for wheat and oats at the Provincial Seed Fair were won by

Robert Cochrane, of Grande Prairie, and Peter Sebastien, of Wembley.

Three junior field crop competitions were organized with the assistance of the Wheat Pool, the Brooks Alfalfa Seed Growers and the Peace River Co-operative Seed Growers. Three samples of oats sent to the Royal Fair won second, third and fourth places and one sample of wheat third.

Members of the oat club won the first three places in the junior competitions at the Provincial Seed Fair, with one member winning the oat championship of the show. Three boys from the district represented the oat, wheat and alfalfa clubs at the seed fair as guests of the Department of Agriculture and the Calgary Board of Trade.

A senior field crops competition was organized with the assistance of the Peace River Co-operative Seed Growers, a seed fair being held on December 4th. There were classes for the junior clubs as well as open competition. The fair was well attended and the exhibits were of high quality.

In the evening the members of the junior seed clubs, the members of the swine clubs and farmers were entertained at a banquet given by the Grande Prairie Board of Trade. At this time the prizes, cups and medals won by the club members were presented. Mr. S. G. Carlyle, Livestock Commissioner and Superintendent of Fairs, addressed the meeting, congratulating the boys on the work done during the year.

There were seven school fairs held in the district, the work being under the supervision of Mr. F. B. Dixon, and assistance was given by this office when possible. These fairs were well attended, bringing out large displays of high-class vegetables and flowers. There was more than usual interest displayed in the livestock classes. The opinion expressed at these fairs was that they were doing a splendid work in the community.

The work of the past year has been characterized by the earnestness of the farmer in seeking a knowledge of better methods. He has been interested in better livestock, better seed and forage crops, and there has been a determination to produce first, in as far as possible, things for his own table and the produce that would pay the grocery bill. There has been a cutting of costs in producing the major crops, but not a dependence on these for a livelihood.

REPORT OF DISTRICT AGRICULTURIST, WILLINGDON.

(WILLIAM N. PIDRUCHNEY)

The crop season of 1931 opened fairly early, following a winter of mild weather and hardly any snowfall. The first work on land started around the 1st of April and was general by the 7th of April. The first rainfall came on the 16th of May, and from then on the rains seemed to come at the right time. In fact, almost ideal weather conditions prevailed for the balance of the growing season.

Harvesting operations commenced around the 18th of August. In many sections of this district they were carried on under a great difficulty, owing to the rank growth of straw and severe lodging. On August 21st the territory east of St. Michaels and all the way towards St. Paul in a strip of 8 miles wide was visited by the worst hailstorm ever experienced in those districts, wiping out the bountiful crop 100% in most cases. What was not hailed out was so badly lodged that hundreds of acres had to be cut one way, consequently the harvesting operations were spread over a longer period than usual.

Threshing operations were interfered with at the beginning by successive rains over a period of about four weeks, and any grain threshed in that period graded tough, but finally the weather settled, and everything was cleaned up before snow came.

The increase in acreage sown to fodder crops is being continued, and large quantities of Western rye, brome and sweet clover seed were ordered through this office. I have noticed, however, that many farmers are rather cautious in the purchase of seed for fear of introducing the noxious weeds. In fact, only the highest quality of seed is asked for, and when that is not available the second grade of seed is seldom taken for the substitute. Soil drifting of recent years is becoming a problem of grave concern in several cases, and the use of forage crops in the crop rotations is being introduced as the means to remedy the situation. Its value as a hay crop is gaining in popularity and is rapidly taking the place of wild hay.

The varieties of wheat grown in the district are being gradually narrowed down to the several more suitable to the district, and more attention is being given to the growing of one variety instead of a mixture of several. Coarse grains do not receive the attention they should, and consequently it would be a difficult task to secure any amount of good clean seed oats or barley. An effort along this line is being made to improve this situation.

The problem of weeds is becoming a major factor in the production of cereals. A generous supply of moisture during the two past seasons makes it a difficult task to combat them successfully. A very small percentage of people are being able to identify the weeds correctly, and very often the seriousness of them is not realized. Every possible means are taken advantage of to have this seriousness drawn to the attention of farmers in the district.

The present economic conditions offer an opportunity to stress the value of quality in the livestock raised for the market. Quite an interest is being exhibited for the demand of good dual purpose cattle. Several efforts were made to secure good Shorthorn cows to serve as a foundation for pure-bred herds. Owing to factors beyond our control, it was not possible to do much along this line, but the interest is created and more concrete results will follow in due time. Several head were purchased, but not anywhere near what is required.

The Federal Bull Loaning Policy was taken advantage of to the extent of 16 pure-bred Shorthorn and two Hereford bulls last spring, and applications were forwarded for another 42 for the coming year. These, of course, cover a very large territory, but it

serves to prove the extent of the interest created for improving the quality of the cattle. It is not so much the question of increasing the quantity, but to raise the quality.

In the swine promotion work considerable improvement has been attained. The percentage of pigs grading in the bacon and select grades is on the increase gradually. It was only a few years ago when the two top grades were only a drug on the market, so to speak, from this district. Swine clubs and the boars loaned under the Federal Loaning Policy are the two factors most instrumental in this improvement. During the last year at least a dozen Yorkshire boars had to be located for the farmers who wanted to have their own boar.

Sheep promotion work is also meeting with satisfactory response. Although this phase of farming is not as general as pigs and cattle raising on the average farm, yet there are many farmers who keep a few sheep. The work from this office centres mostly in demonstrations in castrating and docking, but from time to time an assistance is rendered in locating rams and ewes. The most discouraging feature in sheep raising is the problem of fencing, and especially during these times of economic depression.

There is not much activity being exhibited in the poultry production as a contributing factor to an income of the farm. This office has never pressed this phase of work very strongly, although assistance is rendered in securing cockerels, hatching eggs, baby chicks and furnishing information on feeds and diseases. Several demonstrations were held in the fall of the year in killing, dressing and preparation of poultry for the market. A few odd flocks were culled, and several talks were given on poultry keeping in general.

Three swine clubs were in operation under the direction from this office. Willingdon and Mundare are the two old clubs, and Andrew club was organized last spring. Willingdon club is the strongest of the three, with a membership of 77, Andrew with 33, and Mundare with 28, making a total membership of 138.

Willingdon club exhibited 56 pairs of pigs at the local school fair, probably the largest swine club exhibit in the Province. In the car-load competition the club won the third prize, and the team, composed of George Fediuk and John Lazaruk, won a second place at the central judging competition held in Edmonton.

The Andrew club exhibited 32 pairs at their local swine club fair, and in the car-load competition won the fourth prize. The two representatives, George Filipchuk and George Tomasky, tied for the fourth place in the judging competition.

The Mundare club had only 15 pairs at their local fair, and did not enter in the car-load competition. The pigs were not all ready at the same time, so had to be sold in smaller lots. The judging team from this club, composed of Paul Hewko and Lloyd Polis-chuk, tied for the fourth place with the Andrew team at the central judging competition.

The quality of the pigs exhibited and marketed from each of the clubs was exceptionally high, and there is no doubt in my mind that these clubs are the strongest single factor in improving the quality of the pigs in the communities. I have requests from sev-

eral other communities which are anxious to receive attention along this line, and this will be attended to at the earliest convenience.

Under the direction and with the co-operation of the Field Crops Branch, a grain club of 44 members was organized in the Willingdon district. It was felt for several years that some work should be attempted along this line with the idea of improving the grain raised in this district. The operation of the club during the year leaves about 6,000 bushels of pure seed in the district, which will without any doubt be instrumental in raising the quality of the wheat grown in the following year. The grain judging team, composed of Frank Shymko and George Fediuk, met the Consort boys, who since then have won the Dominion championship, in the final judging competition in Edmonton, and lost out only by a very small margin.

Although various forage crops were grown in this district with varying measure of success, alfalfa did not receive the attention and the trial that it should have. When early in the spring the policy on alfalfa clubs was announced, a club of 31 members was organized on a more or less experimental basis. It is rather too early to predict its future for this district, but by the end of next summer the results should be very conclusive. With adequate moisture supply the germination and the growth throughout the year were exceptionally satisfactory, and if similar results could be obtained every year its adoption for this section of the Province as a forage crop will be assured.

The activities with juniors in the cattle clubs are very limited. This phase of work, however, will receive greater attention in future, as considerable interest is already created. A judging team, composed of D. Sembaliuk and William Repka, was coached in judging dairy cattle, and at the Alberta Dairymen's Judging competition at Calgary was successful in winning first place in a fairly keen competition.

School fairs are becoming more and more an established factor in the education of the children, and assistance has to be rendered at various intervals to the four centres in the vicinity of this office.

Two very successful short courses were organized at Andrew and Myrnam. They were both well attended, and created considerable interest. I have found them very valuable in districts where a follow-up work is contemplated.

Assistance was rendered with the short courses at Evansburg, Gainford, Onoway and Sangudo.

Again this year considerable assistance was rendered to the officials of the C.N.R. Agricultural Department in gathering the information in the Pines and Eagle municipalities for the community progress competitions. I may mention that the Eagle municipality, in which Willingdon is located, has been awarded third prize in the sum of \$250 for 1931 in a very strong competition of some 15 or more municipalities.

Throughout the year 36 public meetings were held, at which various phases of farming were discussed. They as a rule are very much appreciated, and give one an idea of the problems of the district. The services of the office are being taken advantage of

continually, and at times it is impossible for lack of time to meet all the requests adequately.

REPORT OF DISTRICT AGRICULTURIST, MYRNAM.

(A. J. CHARNETSKI)

This office was opened on April 23rd, 1931. Until that time the farmers of the district had no guidance nor encouragement to improve the quality of their field crops and livestock, consequently both these branches of farming had been sadly neglected.

Wheat is still the chief cash crop in this district. Many different varieties of wheat are being sown, of which there are but very few that are really adapted to this particular locality. Early maturing varieties are often found to contain a mixture of the late ones, which in very many cases has an adverse effect on the grade. It is the intention of this office to do everything possible to encourage the farmers to purchase a few bushels of registered seed wheat of the variety most suited to this district, and in this way, at a small cost, improve the quality of their wheat.

The continuation of the Boys and Girls' Grain Clubs would be a great help towards attaining that end.

Forage crops are gaining in popularity. This was indicated by the enquiries regarding the suitability of the different grasses, also by the number of orders sent through this office for various grass seeds.

Last spring some 30 samples of registered Grimm alfalfa seed and a few samples of Mammoth Red and Alsike clover seed was distributed from this office for experimental and demonstrating purposes. Many of the samples were handled differently, such as sowing with and without the nurse crop, and some in rows 12 to 36 inches apart. Data as to growth, etc., of each plot was collected and recorded. It is hoped that this will give us more practical information regarding the legumes in question, and their adaptability to this particular locality. If the experiment proves at all successful, it is expected that a number of farmers will undertake to grow legumes on a larger scale.

Assistance was rendered in judging the Alumni forage crops plots, also in locating farmers willing to grow grass and clover crops for seed, under the new Dominion Government Forage Crops Policy.

Weeds, as yet, are not a serious problem. However, there is evidence that some of the more dangerous, such as stinkweed and sow thistle, are beginning here and there. Information as to the danger of these and the methods of eradication has been given consistently by this office.

Cattle breeding for type and quality has been sadly neglected. This is the direct result of a continual use of scrub sires. An effort is being made to improve the type and quality of cattle by encouraging and assisting farmers in the purchase of good pure-bred sires. During the season seven pure-bred bulls were purchased, five Shorthorns and two Herefords. One pure-bred Shorthorn

herd was started; it consists of two well-bred two-year-old heifers and one bull. Seven livestock improvement centres were formed, asking for a total of 23 Shorthorn bulls.

Demonstrations were given in vaccinating cattle for blackleg, and in dehorning calves by the use of caustic potash.

This district has been, and still is, notorious for steers grading as stags. A successful endeavor has been made by means of explanations and instructions to prevent this in the future.

In general, it was found that hogs throughout the district were, and still are, of very low quality, representing a conglomeration of different breeds. They are short and chubby, of the slow maturing type. Consequently there is considerable room for improvement, and swine clubs are a medium through which that improvement may be effected.

Two swine clubs were organized last spring, one at Myrnam and one at Beauvallon, but unfortunately, due to financial difficulties, the Beauvallon club did not materialize. The Myrnam club consisted of 28 members, and although scattered all the way from Beauvallon to Derwent, they turned out practically 100% to every club meeting. This clearly indicates their keen interest in club work.

The Dominion Government has co-operated by placing eight pure-bred Yorkshire boars. These, together with the 10 purchased privately, should do a good deal towards improving the general run of commercial hogs. Practically all feeder gilts were retained for breeding, and these, with the pure-breds in the club and the six pure-bred gilts purchased for private persons, will give a fair foundation in Yorkshires, especially when it is considered that there was not a single Yorkshire hog in the district. It might be said that the intention is to widen the scope of club work in 1932, and plans are being made to organize three more clubs.

Due to rolling topography, this locality is not well suited to tractor farming, and for that reason good horses are in demand throughout the district. Two horse-breeding clubs were organized for 1932. The Percheron is the generally favored breed. The opinion is that as soon as farmers see the difference between the progeny of good pure-bred sires and the progeny of the existing scrubs, there will be an increasing demand for stallions of good draft breeding.

There are but very few sheep in the district. An effort had been made to purchase 100 breeding ewes (a few for each farmer), but due to continued low grain prices and the sudden slump in the price of livestock, the purchasing of ewes had to be dropped. The importance of castrating and docking of lambs had been stressed on every occasion.

Dipping of sheep was strongly advocated, with the result that one sheep owner built a dipping vat, which is the only one in the district. The same party purchased a pure-bred Oxford ram.

In spite of low prices of eggs and poultry, keen interest is being shown in the improvement of farm flocks. Some 25 (Government banded) Barred Plymouth Rocks and five White Wyandotte cockerels were purchased. The Barred Rocks were bought from Ver-

million School of Agriculture and the Wyandottes came from other prominent breeders in this Province. Assistance was given in the way of plans and advice in the construction of a modern poultry house, the only one of its kind in the district.

During the season about 20 meetings were held, at which various agricultural problems were discussed.

REPORT OF FRENCH DISTRICT AGRICULTURIST.

(J. H. TREMBLAY)

The seeding operations in 1931 were quite general in the Edmonton and St. Paul districts by the 20th of April. In the Grouard district seedings were not general before the first week in May.

More attention is being paid to the production of forage crops, which we believe is the first step to be taken if farming is to be organized on a solid basis. By so doing it will be much easier to maintain the fertility of the soil and ensure a higher quality of feed for all kinds of livestock.

In this connection, an alfalfa competition has been started at Legal, which has proven to be satisfactory. A demonstration field has also been started at Girouxville, with the co-operation of the Field Crops Branch, which comprises plots of one-fortieth of an acre of each of the following plants: Alfalfa, sweet clover, red clover, alsike, timothy and Western rye grass. The clovers have done particularly well, and they went into the winter with a growth varying from one foot to thirty inches, which should be a good protection to carry them through. It will take another year before definite conclusions can be arrived at.

A farmer at Donnelly has harvested very good alsike clover seed for the last two years, and proposes to sow fifty acres of it next spring.

Several other farmers have sown small patches last year and propose to increase their acreage this year.

It is very gratifying to see that the farmers are not only interested in increasing the numbers of their livestock, but in most cases are trying to improve the quality by the use of better sires.

In the horse line two clubs have been started under the Dominion Government scheme, namely, St. Albert and Girouxville. By this plan the clubs received from the Government concerned one-third of the service fees, and this permits the use of the very best horses at a reasonable price.

As far as the cattle are concerned, there is also a great interest in the quality of the breeding stock. During 1931 we have been responsible for the introduction of five Red Poll bulls in the Grouard district and one cow of the same breed. This brings the number of Red Poll bulls in service in that district to 10. We have also given some assistance in selecting two car-loads of grade females which went into that district.

In the Edmonton district we have succeeded in putting out five pure-bred Shorthorn bulls. Three others went to the Bonnyville and St. Paul districts.

It has been our pleasure and privilege to purchase for the Grouard district the reserve champion Hampshire ram at the Edmonton fall show. This ram was bred by the University of Alberta. Two of the same breed were shipped in at the same time.

During the year 1931 some effort has been made to improve the quality of the poultry in our farm flocks.

Two poultry associations were organized, one at Tangent and one at Bonnyville, their object being to promote the poultry industry in their vicinity by introducing well-bred stock, encouraging better feeding, housing and co-operative marketing.

Fifty-two cockerels of bred-to-lay strains were purchased for farmers in our districts. All of these birds were either Barred Plymouth Rocks, Rhode Island Reds or White Wyandottes.

The fourth prize Mammoth Bronze turkey at the 1930 Royal Show was purchased for a breeder in the Grouard district.

During the year 1931 one swine club carried on very successfully at Donnelly. In spite of the drop in hog prices, the boys and girls showed very much interest in this kind of work, which was absolutely new to them. Seventeen pairs of pigs were brought out at the local fair. This number was not sufficient to compete in the ear-lob competition, but it is expected that several new members will enter next year and enable this club to compete with larger ones.

Two calf clubs were also organized under our supervision, one at Legal and the other at Falher. In both cases grade calves were used, but nevertheless a very keen interest was shown by the boys and girls. At Legal 25 calves were brought out at the local fair, and at Falher 17 were shown. At the first place we are working to have a grade Shorthorn calf club and at the latter a club of grade Red Polls. We expect quite an improvement in another year, as all the calves will be from pure-bred sires.

In the course of 1931 we have held 28 meetings, which were attended by approximately 3,800 people. At every one of these meetings we have insisted on the importance of a better balanced rotation for our farms, the necessity of making them self-sustaining, the growing of forage crops, particularly legumes, the raising of better and more livestock to supply our markets. We are confident that the farmers of our districts are getting down to a sounder exploitation as a result of the actual depression.

REPORT OF THE SCHOOL OF AGRICULTURE, VERMILION.

(W. J. ELLIOTT, *Principal*)

With the exception of November the fall months of 1930 were dry. The winter of 1930-31 was very open and, generally speaking, warm with not enough snow to register in January and February, and in fact up to the end of April there had only been .21 inches of snow moisture and that in March. Thus the spring of 1931 opened up with even less moisture than was the case in 1930. Pasture and hay crops suffered in 1931, as May only produced 1.5 inches of moisture, and it was not until well into June that the rains came.

There was plenty of high winds during the spring months, though less than during the same months of 1930. There was at least a normal seeding of grain crops in the Vermilion area, and with a total precipitation from May 1st to September 30th of 22.59 inches, an abundant crop was assured. There was some catchy weather during the harvest and threshing season, but, generally speaking, the season was very favorable for grain crops.

PRECIPITATION (SNOW AND RAIN) BY MONTHS FOR 1926, 1927, 1928, 1929, 1930, 1931

Month.	Rainfall in inches.					
	1926.	1927.	1928.	1929.	1930.	1931.
January	.50	.10	.....	.81	.45	.00
February	1.90	.10	.00	.50	.25	.00
March	.20	.10	.10	.71	.20	0.21
April	.33	2.36	.60	1.02	.98	.00
May	1.81	1.12	1.69	1.53	1.62	1.55
June	2.55	2.00	2.31	.97	8.20	6.34
July	1.93	6.66	5.17	1.64	3.83	5.06
August	4.84	1.70	1.25	1.10	1.43	7.46
September	1.20	3.25	.77	1.18	4.07	2.18
October	.30	2.60	.20	.00	.50	.76
November	.90	2.75	.00	.67	2.57	.70
December	.80	.45	.10	.63	.30	1.00
Totals.....	17.26	23.19	13.09	10.76	24.40	25.26

A glance over the above table shows clearly that the precipitation falls very opportunely for the crops in the Vermilion district; 85.2% of all precipitation falls between April and September 30th, and covering a period of six years 42.9% of all moisture fell in the two growing months of June and July. The years 1930-31 has given us more moisture than has fallen in any of the past six years, and is double that received in each of the years 1926, 1928 and 1929. The average precipitation (snow and rain) for the past six years is 18.09 inches.

YEARLY AVERAGE TEMPERATURES.

Year.	Maximum.	Minimum.
1926	47.7	*18.5
1927	43.2	20.0
1928	50.5	*25.1
1929	45.9	25.4
1930	47.1	24.3
1931	50.0	25.2

*The minimum average for 1926 omits the record for two months and that of 1928 for one month.

The average daily hours of sunshine for the past five years is 5.55 hours. The average for 1931 is 5.47 hours. Thus, it is slightly lower than the five-year average.

The attendance at this school, which increased from 91 in 1925 to 177 in 1929, decreased in 1930 to 120, and there has been a further decrease to 100 in the present term. Adverse economic conditions has caused the decline of the past two years.

The students by classes and years since 1925 are as follows:

	1925.	1926.	1927.	1928.	1929.	1930.	1931.
First Year Girls	28	38	31	45	35	19	17
First Year Boys	40	55	61	72	60	46	30
Second Year Girls .....	.....	6	16	11	13	14	7
Second Year Boys .....	.....	24	23	32	31	22	28
Third Year Girls .....	.....	.....	.....	6	2	1	.....
Third Year Boys .....	.....	.....	.....	5	13	8	.....
British Boys	23	7	18	35	13	.....	.....
Girls taking 2 in 1 .....	.....	.....	.....	1	.....	6	12
Boys taking 2 in 1 .....	.....	.....	.....	4	10	4	6
	91	130	149	211	177	120	100

Of the total recorded for 1928, 35 were British boys. There are two groups of special interest in the 1931 list. First, the very large class of second year boys as compared with last year's first year, and second, the large class of two-in-one girls. Four of the Scotch boys of 1929 and 1930 are among the students this year.

The health of students for this term has so far been unusually good. No epidemics have arisen, and only one or two students have been affected with minor illnesses.

During the term 1930-31 eighteen girls served meals in the apartment, consisting of a small dining room, kitchenette and store-room, provided for this work in the dormitory. The first term each girl prepared and served 10 meals, but owing to pressure of time and work this number was reduced to seven during the second term.

Apartment work has two phases, the first being helper or maid, and the second as hostess. As helper, the routine of the apartment was learned and experience in serving. As hostess, each girl had full responsibility for the preparation of the meals and the condition of her kitchen, which was open to inspection at any time.

An average of six persons were served at each meal.

At the conclusion of meal work each girl was required to make a record of all food used, and the following were calculated: the total cost, the total calories served, the cost per meal; the cost per person per day, the amount of milk per person per day; the eggs per person per day, etc.

Number of girls doing meal work	18
Total number of meals served	860
Average cost per person per day	49.5 cents

The work under the Agronomy Department can be generally summarized under the following heads:

Varietal Work: This covers cereals, flax, forages, roots, miscellaneous crops and potatoes.

Rotations: This work is confined to the root rot studies and the effects of calcium phosphate fertilizers on cereals.

Fruit Growing: This includes all the fruits of interest to the farming public, both of bush fruits and tree fruits.

Co-operative Work: This includes the growing of plots for special purposes, such as the study of root rot diseases, smuts, rust, etc., for the specialists at the University of Alberta.

Miscellaneous: Growing of vegetables for the dormitory; fruit trees for distribution to ex-students and farmers. The annual seed fair, while sponsored by the Alumni Association of this institution, is directly conducted under the Agronomy Department.

It will be noted that each year this branch of the school is extending, as the gradually increasing number of projects appearing in this report will show. Just now the part of this work that is arousing the most interest is that concerned with perennial forage crops. Another branch developing each year is the extension work. This entails speaking at farmers' meetings on crops, weed and cultural methods. With the increase in extension activities of the Field Crops Branch at Edmonton this Agronomy Department's

work is increased to assist the central office with its activities in this district.

The University of Alberta College of Agriculture at Edmonton is endeavoring to get the field plot work more unified and comparable in its results at the variously situated Provincial institutions. The Agronomy Branch here has become closely associated in its cereal work with the Field Husbandry Branch of the College of Agriculture at Edmonton to the mutual benefit of both places, and this district in particular.

Some 78 juniors in the Vermilion district were supplied with small quantities of various varieties of cereals and forage crops, also a small amount of fertilizer was given out for each co-operator to see the effect on cereals. This was not a competitive project. Most of the co-operators were visited during the season, and many appreciated the object lessons that the project afforded.

Visiting and inspection of members forage plots was done at the request of the Weed and Seed Branch, Edmonton.

The clubs in the junior standing field crop competitions at Claysmore and Islay were under this Department, and necessitated the visiting of the plots after seeing to the dispersal of and payment for seed. Later there was judging of the fields, followed by the judging at the seed fairs.

The fruit area was extended this year by the planting of an acre to fruit trees and raspberries.

The fruit crop was the heaviest in the history of the institution. Some 50 lbs. in all of tree fruits were harvested and used in the dormitory kitchen.

All wind-breaks made a great growth, and the fruit section was never in better shape to show what fruits will do in the matter of surviving the winter and producing fruit in this district.

In the spring months supplies of legume culture were made and distributed as in the following statement:

To Government Agents and Schools of Agriculture (excepting Vermilion....)	945 bottles
To Seed Growers and Co-operative Institutions	797 "
To individual farmers from Vermilion	1033 "
	2775 bottles

The monies collected from the sale of these supplies was deposited with the Provincial Treasurer. The amount was \$878.35. The average annual output of legume culture for the last five years has been 3,620 bottles, with a gross income of \$1,267.

During the year the farm manager supervised the Vermilion and Mannville Swine Clubs. There was considerable demand for breeding stock, therefore the membership increased, particularly in the Vermilion district, where membership increased from 11 in 1930 to 27 in 1931. The majority of the young gilts used were bred at the School Farm, but several were selected from litters of older club members.

The club car-lot of pigs took second place in the Provincial car-lot competition, being only half a point behind the winner.

No new club boars have been put out. One old club boar was sold during the year three others were changed. At present the

requirements of the district for bacon type boars appears to be fairly well satisfied.

During July a special two-day short course was held at the school for all pig club members. Twenty-six were in attendance. These, we believe, derived much more information and benefit than they would have done by attending a series of meetings throughout the year.

The rams loaned by the Dominion Live Stock Branch have done good service. Some of these have been moved to new flocks, while others have been retained in the same flocks as last year. We have assisted some new beginners in securing breeding stock.

During the year we attended several farmers' meetings and gave talks on various livestock problems. This work, we believe, could be increased to advantage, particularly during the summer season.

The above-named activities, together with correspondence and judging at agricultural society fairs and school fairs, constitutes the programme of extension work carried on during the year.

Realizing that difficulty might be experienced, in the face of adverse financial conditions, in obtaining full support from school boards for their respective school fair associations, letters were addressed to each board during January, 1931, urging that rate-payers be given an opportunity of expressing their attitude towards the school fair programme. It is interesting to note that we lost only two fairs from lack of interest on the part of ratepayers, and that we had actually an increase in the number of fairs held in 1931. In two or three cases fairs were cancelled owing to severe hail damage, while inclement weather was responsible for the cancellation of two or three others.

Altogether 44 school fairs were held under the direction of the Vermilion School of Agriculture, and in each case, except one, the quality of the fairs was most gratifying. In the one case of exception, that of Slave Lake, it was deemed inadvisable to advance them the usual Government assistance, as the executive of this fair failed to live up to the standards which have been built up over a period of years, and refused to act according to the demands of the School Fair Bulletin, which had been given them as their guide.

Notable increases over the report submitted for the year 1930 are shown as follows: Increase in number of pupils taking part, 4%; increase in the number of entries, 20%; increase in the amount of livestock awards, 12%; increase in amount of penmanship awards, 10%, with a very marked increase in the attendance at the fairs generally, particularly the attendance of adults.

All school fairs were judged with teams of four persons only, and I would like to express my thanks for the unstinted assistance that was rendered by the members of the teams. Travelling was, at time, almost impossible, and many fairs were reached only after hours of driving at night. Fairs were held on consecutive days in an endeavor to lower judging costs, and I am sincerely grateful to the judges, who were always ready to help in completing records, etc., as found necessary.

All scholarship winners were figured out on the day of the fair, and in practically every case announced before the departure of the children to their homes.

Visiting of schools by members of the staff of this school played a large part in consolidating the work and in making efficient exhibiting possible.

REPORT OF THE SCHOOL OF AGRICULTURE, OLDS.

(JAMES MURRAY, *Principal*)

We have to again record a slight falling-off in the number of students in attendance in spite of the fact that we have received a number from the districts formerly served by the Claresholm and Raymond schools. We still have, however, sufficient to give us good-sized classes, and as many as could be expected under the conditions which prevail. The total enrolment is 134, and is distributed among the various classes as follows: First Year Agriculture, 42; Second Year Agriculture, 36; First Year Economics, 20; Second Year Home Economics, 9; Third Year, 19.

The closing exercises for last year's term were held on March 31st. On that occasion diplomas in Agriculture were awarded to 40 young men and in Home Economics to 11 young women. We were glad to have with us at that time Mr. J. F. Andrew, Assistant Deputy Minister of Agriculture, who presented the prizes, and Dr. Scott, Superintendent of High Schools in Calgary, who addressed the students. We are grateful to the many friends of the school for the many prizes which were awarded. Mr. Alfred Groom was valedictorian.

The entering students were all given a medical examination shortly after the opening of the school. Numerous minor defects of eyes, ears and throats were detected, many of which have since been corrected. One case of incipient pulmonary tuberculosis was also found, the student concerned returning home for treatment.

Since the opening we have been singularly free from illness, nothing of a serious nature having broken out up to the present.

We are always glad to welcome visitors to the school, the grounds, the plots or the farm. Most of these come during the summer when the regular course is not in session, but even then they can get acquainted with our material equipment, meet some of the staff, and judge of the class of work that is being carried on.

We had a number of organized picnics, with attendance varying from a few dozen to a hundred or more. Such groups are shown around and given talks on the work in progress. During July and August the borders of annuals and perennials show what can be accomplished in home beautification, and hundreds of visitors carry away ideas to improve their own farmsteads.

The week's course arranged for farm women in July was so well received last year that it was repeated along similar lines in 1931. Thirty-five were in attendance. An effort was made to furnish a programme both interesting and instructive, but not so full that it would be burdensome. Most of the demonstrations were given by the staff of the domestic science department, but some time was

devoted to horticulture, vegetable gardening and home beautification. One period was devoted to home nursing, one to cheese-making and one to dairy cattle.

After the completion of the course many letters were received expressing appreciation of the course, and suggesting topics for consideration another year.

In spite of the depression school fairs have continued to make steady gains. This is indicated by an increase of 6,000 exhibits this year over that of last year from the same number of fairs and by the addition of a few new centres each year. The general interest of pupils and parents, instead of being lessened, as one might expect, is growing better each year.

Seeds were distributed to 43 centres in 1931, and of these 42 held fairs. One centre, Mountain View, cancelled their fair due to hail damage. Three fair centres, Fleet, Castor and Gwynne, failed to reorganize, but this was partly balanced by the organization of new centres at Crossfield and at Valley View Hall near Telfordville. A total of 49,365 exhibits were shown at the 42 fairs, which included 437 schools and 10,433 pupils.

Financial statements from the fair secretaries show the organizations to be in good condition, with small bank balances in most cases.

During the spring months 33 centres were visited by representatives of the School of Agriculture, when talks were given on how our fairs and the exhibits shown at them might be improved. These visits help greatly in arousing interest and inducing action in both the teacher and the pupils. These visits also afforded an opportunity to meet fair officials, trustees and others to talk over difficulties and problems in regard to their school fair.

The short course for the boys and girls winning the highest number of points in classes 1 to 93 in their respective fairs, was held at the School of Agriculture, Olds, July 6th to 11th inclusive.

The attendance totaled 103 in all, 85 from the Olds district and 18 from the Sedgewick line, under the supervision of H. W. Scott, District Agriculturist. Transportation arrangements were well planned, and all arrived on time with happy, expectant faces. The dormitory provided splendid accommodation for all.

At the close of the course the names of the boy and the girl having done the best work in all lines during the course were announced as having won the Agricultural School Scholarships. The winners were Mary Smith, of Alliance, and Douglas Campbell, of Leduc. The whole programme was so much enjoyed that the young people were loath to leave when the last day arrived.

The fact that these short course scholarships are so eagerly sought after has the effect of bringing out more and better exhibits at the various school fairs.

Considerable time and attention was again given to Boys and Girls' Livestock Clubs, Mr. Phillips, instructor in animal husbandry, being entirely occupied with these clubs throughout the summer months. The swine clubs at Red Deer and Innisfail and the dairy calf club at Olds, were again in operation, and new dairy calf

clubs were organized at Carstairs and Red Deer. The number of members and the number of animals handled in each club are as shown in the following table:

	No. of Members	No. of Gr. Pigs	No. of Pure-bred Pigs	No. of Calves	No. of Yearling Heifers
CALF CLUBS—					
Olds	37	....	....	34	13
Red Deer	18	....	....	18	....
Carstairs	13	....	....	13	....
SWINE CLUBS:					
Red Deer	27	60	4	....	....
Innisfail	28	56	6	....	....

An auto trip was arranged from each club centre to some place of interest from a livestock standpoint. The Olds Calf Club drove to the Lacombe Experimental Station, stopping en route to inspect Ellwell's fine Holstein herd at Blackfalds. At Lacombe the crowd had a very interesting time being shown the livestock and the field crop experiments by the farm staff.

Trips were also made to the Lacombe Farm by the Red Deer Calf and Swine Clubs and the Innisfail Swine Club.

The Carstairs Calf Club drove to the Hays & Co. dairy farm at Turner Siding, inspected the splendid herd and buildings there, then were shown through the plant of the Union Milk Company in Calgary.

These excursions proved a very popular feature, a total of 278 people taking part from four points.

Calf club shows were held at Olds, Red Deer and Carstairs, all of the calves being shown in each case. The cash prizes were made up by the Provincial and Dominion Departments of Agriculture and the local communities. Pure-bred Holstein bull calves of high quality were donated by Hays & Co Dairy Farm to the winners in the Holstein calf classes at Olds, Red Deer and Carstairs. One was also contributed by J. Kilpatrick, Olds. Ayrshire bull calves were given to the winners in the Ayrshire classes at Red Deer and Carstairs by Richards Bros., of Red Deer.

The swine clubs held successful shows and shipping days. As the members of these clubs are retaining a number of pure-bred sows from this and previous years, a marked improvement in the hog stock of these districts is in evidence. A number of Dominion Government boars have been placed on loan in these districts.

Coaching was given to judging teams in the various districts during the fall, and teams were entered in the Provincial competition from the calf clubs at Olds and Carstairs, the former team winning first place and the latter second. The Olds team, consisting of Tom Noad and Chris. Dunkley, won the free trip to the Toronto Royal Show, where they gave a good account of themselves in the Dominion-wide contests.

The season's activities at Olds were rounded off with a banquet attended by 120 people, where prizes were presented and talks were given by Mr. S. G. Carlyle, Live Stock Commissioner, Mr. F. S. Grisdale, M.L.A., Mr. Phillips, and the two boys who went to Toronto.

The Experimental Union had quite an active year. The membership dropped somewhat from last year, but still numbered over

400, and 2,200 samples were distributed. These included cereals, potatoes, perennial flowers, home-grown vegetable seeds, currant cuttings and flower seed collections. Favorable reports were received from most of those getting material, as it gave them a start in first-class stock.

The seed fair sponsored by the Union was held at the school on January 5th. There was strong competition in all the grain and potato classes, but less than usual in the small seeds. Mr. H. H. Phillips, of Langdon, an ex-student, was elected president.

During the year memberships to O.S.A. Extension Library were received as follows: 10 at \$1.00, 47 at \$2.00, 1 at \$4.00, 1 at \$30.00; total, \$138.00.

A shipment of books was received from the Victoria League during the summer, but in the Librarian's opinion they were of little value. A large number of them were consigned to the furnace. Four hundred and eighteen books were accessioned during the year; 90 books were purchased out of Library funds; 5 books purchased by the Department of Agriculture were accessioned in the Library.

The circulation for the first three months of the year was: Local, 1,910; mail, 136. In November the circulation was: Local, 695; mail, 61.

The experimental work with farm crops continues to draw the attention of many visitors during the summer and fall months. A great variety of projects are under way, including tests of new and promising varieties of cereals, grasses and clovers, methods of seeding forage crops, mixtures of grasses and clovers for hay and pasture. A considerable number of rotations are under trial, and many of these have been established a sufficient length of time to now be giving valuable results—information of great value in class work and at farmers' meetings. More than the usual amount of attention is being given to forage crops, and no feature of our work in field crops attracts more attention from farmer visitors.

An annual grass that gives promise of being useful as a hay crop is Westerworth rye grass. Seed of this was secured from Sutton's, Reading, England, several years ago. It can be sown as late as the first of June and still produce a crop of over two tons of hay per acre. The hay is fine, free from dust and relished by all kinds of stock. A heavy crop of seed is produced, and it is easily threshed with the ordinary separator. This grass is being further tested here and at a number of other points in the west from seed which we have produced.

Alfalfa continues to demonstrate its suitability to our conditions. We have small areas which have been through five winters and are still a perfect stand. Even this season, when there was practically no growth until the middle of June, this alfalfa produced over two tons of cured hay per acre. The amount of hay produced from year to year depends mainly on the rainfall. With normal precipitation, 18 inches, one good cutting and one light cutting may be expected, from two to three tons per acre.

Alfalfa seed does not set well in this district, but first-class seed can be bought in the Province at reasonable prices—about half

what it was a few years ago. The cost of seed now does not exceed \$2.00 per acre.

There was considerable winter killing in trees, shrubs and fruit bushes, probably due to the very dry fall and the entire absence of protection in the form of snow. A number of plum trees had to be uprooted, but we still have a considerable number of trees of promise. There was also some loss among the apples and crabs, but we have been able to add to our collection some desirable varieties from the Morden Experimental Station, Manitoba, and now have good foundation material for a small orchard.

On account of spring frosts and winter injury there was less fruit than usual in currants, plums and apples.

We continue to have very satisfactory results from growing vegetable seeds. Good yields of high quality are secured. We save also a large proportion of bulbs and roots required for planting, and thus reduce the cost to a minimum.

REPORT OF THE SCHOOL OF AGRICULTURE, CLARESHOLM.

(S. H. GANDIER, *Principal*)

As a measure of economy in a period of economic and financial depression, the closing of the Schools of Agriculture in the southern districts of the Province was announced by the Department of Agriculture in August. The Claresholm School was officially closed on September 30th. Following is a brief report of the more important activities of the school for the nine months during which it operated.

The attendance in the regular courses from January to March, inclusive, was the lowest on record. A total of 41 students were registered in Agriculture and Home Economics classes. Registration in the school fairs scholarship short course was 26 girls and 25 boys.

At the closing exercises held on April 2nd diplomas were awarded to the following students who had successfully completed the two-year course:

Home Economics—Cornelia De Valois, Barons; Harriet Adeline Discher, Vulcan; D. Jean Lind, High River; Rose Mattie Oviatt, Claresholm; Ruth Gabriella Olson, Stavely; Margaret Sundquist, Stavely; Mabel Julia Wallabeck, Claresholm.

Agriculture—Goodwin John Berg, Nanton; Rees Evans, Claresholm; Wilfred George Harrison, Claresholm; Newton John Irwin, Barons; Melvin L. Johnson, Picture Butte; Richard Linville, Blairmore; Gilbert K. R. Nelson, High River; John Alex. Primrose, Purple Springs; Harold Michael Shore, Milo; John Franklin Watson, Stavely.

The more important prizes presented at the closing exercises were the following:

The P. Burns Scholarships of \$50.00 each, awarded to first year students who had done the best all-round work during the year, in

both scholarship and general school activities:—Home Economics, Winnifred Thompson, Carnforth; Agriculture, Neil Tupper, Claresholm.

Second Year Gold Medals for general proficiency: Home Economics, Harriet Discher, Vulcan; Agriculture, John Primrose, Purple Springs.

Calgary Herald Prizes, first year general proficiency: Home Economics: 1, Winnifred Thompson, Carnforth; 2, Alice Herman, Lomond. Agriculture: 1, Arthur Patterson, Midnapore; 2, Leslie Lindeman, Milk River.

Lethbridge Herald Prize of \$15.00 for essay on "Weed Control": Newton Irwin, Barons.

Medals for Stock Judging—Second Year Silver Medal, Melvin Johnson, Picture Butte; First Year Bronze Medal, Julius Koehler, Claresholm.

National Elevator Co., Ltd., Trophy for proficiency in Second Year Field Husbandry: Gilbert Nelson, High River.

Numerous other lesser prizes were also awarded.

The annual short course for the boys and girls who obtained the highest number of points for their exhibits at their respective fairs was held July 25th to August 1st, with an attendance of 51 students. Tests at the close of the course resulted in the Department's Special Scholarship of one year at a School of Agriculture, with all expenses paid, being awarded to Frances McBride, of Arrowwood, and Mitchell Garriott, of Strathmore.

The Claresholm school fair circuit enjoyed an unusually successful season, there being an increase in the number of fairs and more enthusiastic interest shown by executives, teachers, parents and pupils. Twenty-seven fairs were held, a number of these being two-day fairs because of large exhibits and programmes with new features which required the additional day. Weather conditions during September were generally good, making postponements few and no cancellations.

Experiments in grains, fodder and root crops and in vegetables and small fruits were conducted as usual on the 20-acre area reserved for that purpose. Some of the experiments were a partial failure because of the very limited amount of moisture after the middle of June. This applies especially to fodder and root plots, there being sufficient reserve moisture to mature an average grain crop. The field husbandmen remained at the school to October 31st to complete the records of the year's work.

REPORT OF SCHOOL OF AGRICULTURE, RAYMOND.

The School of Agriculture at Raymond was first opened in October, 1920. Almost coincident with the opening of the school there occurred a series of dry years which, together with the post-war depression, materially reduced the student attendance.

As an economic measure, the school was temporarily closed in the spring of 1923, along with the Schools of Agriculture at Ver-

million, Youngstown and Gleichen. The Raymond School remained closed until the fall of 1926 when, in response to the expressed wishes of the people of the territory formerly served by the school, it was re-opened by the Department. A very satisfactory attendance was secured during the years which followed. Operation of the school was again discontinued in August, 1931, as a measure of economy.

Since submitting the last report, the school held its final graduating exercises. The student enrolment at the close of the term was as follows: First Year students, boys 20, girls 7; Graduation Class, boys 15, girls 14.

During the early spring and summer months members of the staff were engaged in regular extension work, which included the direction and supervision of school fairs, pig clubs, testing of chemical weed killers, and relief work. School fairs were conducted at 23 points within the district. During the summer months all newly organized school fair centres were visited. Reports from the school fairs held during the fall show that exhibits and attendance were very satisfactory, and keen public interest in the local fairs was generally displayed. Several pig clubs were supervised from the school. The demand for these clubs greatly exceeded that of the previous year. It was found necessary to refuse a number of applications, due to lack of staff to provide necessary supervision.

Extensive investigational work was conducted by Mr. W. G. Smith, instructor in Field Husbandry. This work was conducted under the direction of the Field Crops Commissioner and in co-operation with the Commission on Weed Control, National Research Council. This consisted largely of testing various chemical weed eradicators, the results of which have been submitted to the Field Crops Commissioner.

In addition to the regular extension work, staff members assisted with the securing of seed and feed in connection with the Provincial relief programme, and also with the removal of settlers from the dry areas of the Province.